

**Product name:** Forensic Toxicology Comprehensive Mix - Box 2 of 2  
**Part no.:** 5190-0555A

This product is composed of the following:

### Kit Components, Reagents

Box/Module Part number	Box/Module Name	Kit Component Part Number	Kit Component Name	Qty Units	GHS
-	-	5190-0557	Forensic Toxicology Comprehensive Mix – Submix 1	1	Yes
-	-	5190-0559	Forensic Toxicology Comprehensive Mix – Submix 3	1	Yes
-	-	5190-0560	Forensic Toxicology Comprehensive Mix – Submix 4	1	Yes
-	-	5190-0561	Forensic Toxicology Comprehensive Mix – Submix 5	1	Yes
-	-	5190-0563	Forensic Toxicology Comprehensive Mix – Submix 8	1	Yes
-	-	5190-0565	Forensic Toxicology Comprehensive Mix – Submix 6	1	Yes
-	-	5190-6167A	Forensic Toxicology Comprehensive Mix – Submix 10A	1	Yes
-	-	5190-6167B	Forensic Toxicology Comprehensive Mix – Submix 10B	1	Yes
-	-	5190-6167C	Forensic Toxicology Comprehensive Mix – Submix 10C	1	Yes

Article SDSs, if maintained, are available on [www.agilent.com](http://www.agilent.com). We recommend using the article product code when searching. SDSs are only available for a limited set of countries.

### Transport Information for the Kit:

**Dangerous Goods classification for:** 5190-0555A

DOT	IMDG	IATA
UN3316, Chemical kit, 9, II	UN3316, CHEMICAL KIT, 9, II	UN3316, Chemical kit, 9, II

De minimis quantities

**Validation date:** 02/28/2025  
**SDS Country:** United States

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SDSs for each individual Kit component follow this cover sheet.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 1

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 1  
**Part no.** : 5190-0557  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2  
 H302 ACUTE TOXICITY (oral) - Category 4  
 H312 ACUTE TOXICITY (dermal) - Category 4  
 H332 ACUTE TOXICITY (inhalation) - Category 4  
 H319 EYE IRRITATION - Category 2A

### 2.2 GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: H225 - Highly flammable liquid and vapor.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.

#### Precautionary statements

##### Prevention

: P280 - Wear protective gloves and protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Harmful in contact with skin.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** :  No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** :  Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.  
**Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b>            TWA 10 hours: 20 ppm.            TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b>            Absorbed through skin.            STEL 15 minutes: 105 mg/m<sup>3</sup>.            STEL 15 minutes: 60 ppm.            TWA 8 hours: 70 mg/m<sup>3</sup>.            TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b>            TWA 8 hours: 40 ppm.            TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b>            TWA 8 hours: 40 ppm.            TWA 8 hours: 70 mg/m<sup>3</sup>.            STEL 15 minutes: 60 ppm.            STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b>            Absorbed through skin.            TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg)
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

- Miscible with water** : Yes.

## Section 9. Physical and chemical properties and safety characteristics

<b>Partition coefficient: n-octanol/water</b>	: -0.34
<b>Auto-ignition temperature</b>	: 524°C (975.2°F)
<b>Decomposition temperature</b>	: 120°C (248°F)
<b>Heat of combustion</b>	: 31075360 J/kg
<b>Viscosity</b>	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapor	17100 ppm [4 hours]

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Skin corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Serious eye damage/eye irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Respiratory corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: <input checked="" type="checkbox"/> May cause respiratory irritation.
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## Section 11. Toxicological information

### Ingredient name

Acetonitrile

### Conclusion/Summary

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

Conclusion/Summary : Not available.  
[Product]

#### Respiratory

Conclusion/Summary : Not available.  
[Product]

### Germ cell mutagenicity

Conclusion/Summary : Not available.  
[Product]

### Carcinogenicity

Not available.

Conclusion/Summary : Not available.  
[Product]

### Reproductive toxicity

Conclusion/Summary : Not available.  
[Product]

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin.

Ingestion : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

Inhalation : No specific data.

## Section 11. Toxicological information

**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 1	500.6	1101.3	N/A	11.0	N/A
Acetonitrile	500	1100	N/A	11	N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

#### Result

**Acetonitrile**  
 Acute - LC50 - Fresh water 3600 mg/l [48 hours]  
 Acute - IC50 - Fresh water 3685 mg/l [96 hours]  
 Chronic - NOEC - Fresh water 160 mg/l [21 days]  
 Chronic - NOEC - Fresh water 1000 mg/l [96 hours]  
 Acute - LC50 - Fresh water 1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

#### Result

## Section 12. Ecological information

Acetonitrile OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 1	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

## Section 13. Disposal considerations

for additional handling information and protection of employees.

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

**IATA**

### Additional information

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Federal regulations** : **Clean Water Act (CWA) 307:** Acetonitrile

### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : **FLAMMABLE LIQUIDS** - Category 2  
**ACUTE TOXICITY (oral)** - Category 4  
**ACUTE TOXICITY (dermal)** - Category 4  
**ACUTE TOXICITY (inhalation)** - Category 4  
**EYE IRRITATION** - Category 2A

#### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

## Section 15. Regulatory information

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥90
Supplier notification	Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

**New Zealand** : Not determined.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

**Taiwan** : Not determined.

**Thailand** : Not determined.

**Turkey** : Not determined.

**United States** : Not determined.

**Viet Nam** : Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : 07/29/2014

**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

☑ Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 3

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 3  
**Part no.** : 5190-0559  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2  
 H302 ACUTE TOXICITY (oral) - Category 4  
 H312 ACUTE TOXICITY (dermal) - Category 4  
 H332 ACUTE TOXICITY (inhalation) - Category 4  
 H319 EYE IRRITATION - Category 2A

### 2.2 GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

H225 - Highly flammable liquid and vapor.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.

### Precautionary statements

**Prevention** :

P280 - Wear protective gloves and protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥75 - ≤90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.  
**Inhalation** : Harmful if inhaled.  
**Skin contact** : Harmful in contact with skin.  
**Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness
- Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 20 ppm. TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b> Absorbed through skin. STEL 15 minutes: 105 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b> Absorbed through skin. TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg)
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

- Miscible with water** : Yes.

## Section 9. Physical and chemical properties and safety characteristics

<b>Partition coefficient: n-octanol/water</b>	: -0.34
<b>Auto-ignition temperature</b>	: 524°C (975.2°F)
<b>Decomposition temperature</b>	: 120°C (248°F)
<b>Viscosity</b>	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapor	17100 ppm [4 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.	

#### Skin corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Serious eye damage/eye irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Respiratory corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: <input checked="" type="checkbox"/> May cause respiratory irritation.
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Ingredient name	Conclusion/Summary
-----------------	--------------------

## Section 11. Toxicological information

Acetonitrile

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

**Conclusion/Summary [Product]** : Not available.

#### Respiratory

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Harmful in contact with skin.

**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : No specific data.

**Skin contact** : No specific data.

## Section 11. Toxicological information

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 3 Acetonitrile	572.5 500	1259.5 1100	N/A N/A	12.6 11	N/A N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

Acetonitrile

#### Result

Acute - LC50 - Fresh water 3600 mg/l [48 hours]  
 Acute - IC50 - Fresh water 3685 mg/l [96 hours]  
 Chronic - NOEC - Fresh water 160 mg/l [21 days]  
 Chronic - NOEC - Fresh water 1000 mg/l [96 hours]  
 Acute - LC50 - Fresh water 1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

Acetonitrile

#### Result

OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

## Section 12. Ecological information

**Conclusion/Summary** : Not available.  
**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 3	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

### Additional information

Remarks: De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **Clean Water Act (CWA) 307:** Acetonitrile

#### TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

#### SARA 311/312

Classification : **FLAMMABLE LIQUIDS** - Category 2  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
EYE IRRITATION - Category 2A

##### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥75 - ≤90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

#### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥75 - ≤90
Supplier notification	Acetonitrile	75-05-8	≥75 - ≤90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Oxazepam, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Alprazolam, Benzodiazepines, Diazepam, Lorazepam, Benzodiazepines, temazepam, Benzodiazepines, Chlordiazepoxide hydrochloride, Flurazepam hydrochloride, Benzodiazepines, Benzodiazepines, triazolam, Benzodiazepines, Benzodiazepines, Clorazepate dipotassium, Benzodiazepines and Benzodiazepines, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Alprazolam	-	-
Benzodiazepines	-	-
Diazepam	-	-
Lorazepam	-	-
Benzodiazepines	-	-
Oxazepam	-	-
temazepam	-	-
Benzodiazepines	-	-
Chlordiazepoxide hydrochloride	-	-
Flurazepam hydrochloride	-	-
Benzodiazepines	-	-
Benzodiazepines	-	-
triazolam	-	-
Benzodiazepines	-	-
Benzodiazepines	-	-
Clorazepate dipotassium	-	-
Benzodiazepines	-	-
Benzodiazepines	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## Section 15. Regulatory information

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

### [Inventory list](#)

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Japan</b>	: <input checked="" type="checkbox"/> <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Philippines</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Republic of Korea</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Taiwan</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Thailand</b>	: <input checked="" type="checkbox"/> Not determined.
<b>Turkey</b>	: <input checked="" type="checkbox"/> Not determined.
<b>United States</b>	: <input checked="" type="checkbox"/> At least one component is inactive.
<b>Viet Nam</b>	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Other information

### [Procedure used to derive the classification](#)

Classification	Justification
<input checked="" type="checkbox"/> FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### [History](#)

<b>Date of issue/Date of revision</b>	: 02/28/2025
<b>Date of previous issue</b>	: 06/30/2014
<b>Version</b>	: 1

### [Key to abbreviations](#)

: ATE = Acute Toxicity Estimate
: BCF = Bioconcentration Factor
: DOT = Department of Transportation
: GHS = Globally Harmonized System of Classification and Labelling of Chemicals
: IATA = International Air Transport Association
: IBC = Intermediate Bulk Container
: IMDG = International Maritime Dangerous Goods
: IMO = International Maritime Organization
: LogPow = logarithm of the octanol/water partition coefficient
: MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
: N/A = Not available
: SGG = Segregation Group
: TDG = Transportation of Dangerous Goods
: UN = United Nations

Indicates information that has changed from previously issued version.

### [Notice to reader](#)

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 4

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 4  
**Part no.** : 5190-0560  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

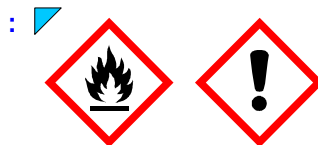
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

**H225** FLAMMABLE LIQUIDS - Category 2  
**H302** ACUTE TOXICITY (oral) - Category 4  
**H312** ACUTE TOXICITY (dermal) - Category 4  
**H332** ACUTE TOXICITY (inhalation) - Category 4  
**H319** EYE IRRITATION - Category 2A

### 2.2 GHS label elements

#### Hazard pictograms



#### Signal word

: **Danger**

#### Hazard statements

: **H225** - Highly flammable liquid and vapor.  
**H302 + H312 + H332** - Harmful if swallowed, in contact with skin or if inhaled.  
**H319** - Causes serious eye irritation.

#### Precautionary statements

##### Prevention

: **P280** - Wear protective gloves and protective clothing. Wear eye or face protection.  
**P210** - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**P241** - Use explosion-proof electrical, ventilating or lighting equipment.  
**P242** - Use non-sparking tools.  
**P243** - Take action to prevent static discharges.  
**P233** - Keep container tightly closed.  
**P261** - Avoid breathing vapor.  
**P270** - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Harmful in contact with skin.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** :  No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** :  Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 20 ppm. TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b> Absorbed through skin. STEL 15 minutes: 105 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b> Absorbed through skin. TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg)
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

- Miscible with water** : Yes.

## Section 9. Physical and chemical properties and safety characteristics

<b>Partition coefficient: n-octanol/water</b>	: -0.34
<b>Auto-ignition temperature</b>	: 524°C (975.2°F)
<b>Decomposition temperature</b>	: 120°C (248°F)
<b>Viscosity</b>	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50 2460 mg/kg Rat - Inhalation - LC50 Vapor 17100 ppm [4 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.

#### Skin corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Serious eye damage/eye irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Respiratory corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: <input checked="" type="checkbox"/> May cause respiratory irritation.
-------------------------------------	---

Ingredient name	Conclusion/Summary
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## Section 11. Toxicological information

Acetonitrile

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

**Conclusion/Summary [Product]** : Not available.

#### Respiratory

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Harmful in contact with skin.

**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : No specific data.

**Skin contact** : No specific data.

## Section 11. Toxicological information

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 4 Acetonitrile	500.8 500	1101.8 1100	N/A N/A	11.0 11	N/A N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

Acetonitrile

#### Result

Acute - LC50 - Fresh water 3600 mg/l [48 hours]  
 Acute - IC50 - Fresh water 3685 mg/l [96 hours]  
 Chronic - NOEC - Fresh water 160 mg/l [21 days]  
 Chronic - NOEC - Fresh water 1000 mg/l [96 hours]  
 Acute - LC50 - Fresh water 1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

Acetonitrile

#### Result

OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

## Section 12. Ecological information

**Conclusion/Summary** : Not available.  
**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 4	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

### Additional information

Remarks: De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **Clean Water Act (CWA) 307:** Acetonitrile

#### TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

#### SARA 311/312

Classification : **FLAMMABLE LIQUIDS** - Category 2  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
EYE IRRITATION - Category 2A

##### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

#### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥90
Supplier notification	Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Benzodiazepines, Haloperidol and Benzodiazepines, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Benzodiazepines	-	-
Haloperidol	-	-
Benzodiazepines	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

**New Zealand** : Not determined.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

**Taiwan** : Not determined.

**Thailand** : Not determined.

**Turkey** : Not determined.

## Section 15. Regulatory information

**United States** :  At least one component is inactive.  
**Viet Nam** :  Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
<input checked="" type="checkbox"/> FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025  
**Date of previous issue** : 06/30/2014  
**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 5

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 5  
**Part no.** : 5190-0561  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

**H225** FLAMMABLE LIQUIDS - Category 2  
**H302** ACUTE TOXICITY (oral) - Category 4  
**H312** ACUTE TOXICITY (dermal) - Category 4  
**H332** ACUTE TOXICITY (inhalation) - Category 4  
**H319** EYE IRRITATION - Category 2A

### 2.2 GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

H225 - Highly flammable liquid and vapor.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.

### Precautionary statements

**Prevention** :

P280 - Wear protective gloves and protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.  
**Inhalation** : Harmful if inhaled.  
**Skin contact** : Harmful in contact with skin.  
**Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness
- Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 20 ppm. TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b> Absorbed through skin. STEL 15 minutes: 105 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b> Absorbed through skin. TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg)
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

- Miscible with water** : Yes.

## Section 9. Physical and chemical properties and safety characteristics

<b>Partition coefficient: n-octanol/water</b>	: -0.34
<b>Auto-ignition temperature</b>	: 524°C (975.2°F)
<b>Decomposition temperature</b>	: 120°C (248°F)
<b>Viscosity</b>	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50 2460 mg/kg Rat - Inhalation - LC50 Vapor 17100 ppm [4 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.

#### Skin corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Serious eye damage/eye irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Respiratory corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: <input checked="" type="checkbox"/> May cause respiratory irritation.
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Ingredient name	Conclusion/Summary
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## Section 11. Toxicological information

Acetonitrile

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

**Conclusion/Summary [Product]** : Not available.

#### Respiratory

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Harmful in contact with skin.

**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : No specific data.

**Skin contact** : No specific data.

## Section 11. Toxicological information

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 5 Acetonitrile	533.7 500	1174.1 1100	N/A N/A	11.7 11	N/A N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

Acetonitrile

#### Result

Acute - LC50 - Fresh water 3600 mg/l [48 hours]  
 Acute - IC50 - Fresh water 3685 mg/l [96 hours]  
 Chronic - NOEC - Fresh water 160 mg/l [21 days]  
 Chronic - NOEC - Fresh water 1000 mg/l [96 hours]  
 Acute - LC50 - Fresh water 1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

Acetonitrile

#### Result

OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

## Section 12. Ecological information

**Conclusion/Summary** : Not available.

**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 5	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

### Additional information

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Federal regulations** : **Clean Water Act (CWA) 307:** Acetonitrile

#### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

**Classification** : **FLAMMABLE LIQUIDS** - Category 2  
**ACUTE TOXICITY (oral)** - Category 4  
**ACUTE TOXICITY (dermal)** - Category 4  
**ACUTE TOXICITY (inhalation)** - Category 4  
**EYE IRRITATION** - Category 2A

##### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

#### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥90
Supplier notification	Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Phenobarbital, which is known to the State of California to cause cancer, and Pentobarbital sodium, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Pentobarbital sodium Phenobarbital	- Yes.	- -

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

**New Zealand** : All components are listed or exempted.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

**Taiwan** : Not determined.

**Thailand** : Not determined.

**Turkey** : Not determined.

**United States** : Not determined.

## Section 15. Regulatory information

**Viet Nam** : All components are listed or exempted.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : 07/02/2014

**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 8

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 8  
**Part no.** : 5190-0563  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

**H225** FLAMMABLE LIQUIDS - Category 2  
**H302** ACUTE TOXICITY (oral) - Category 4  
**H312** ACUTE TOXICITY (dermal) - Category 4  
**H332** ACUTE TOXICITY (inhalation) - Category 4  
**H319** EYE IRRITATION - Category 2A

### 2.2 GHS label elements

**Hazard pictograms** :



**Signal word** :

Danger

**Hazard statements** :

H225 - Highly flammable liquid and vapor.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.

### Precautionary statements

**Prevention** :

P280 - Wear protective gloves and protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.  
**Inhalation** : Harmful if inhaled.  
**Skin contact** : Harmful in contact with skin.  
**Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness
- Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** :  No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.  
**Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b>  TWA 10 hours: 20 ppm.  TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b>  Absorbed through skin.  STEL 15 minutes: 105 mg/m<sup>3</sup>.  STEL 15 minutes: 60 ppm.  TWA 8 hours: 70 mg/m<sup>3</sup>.  TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b>  TWA 8 hours: 40 ppm.  TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b>  TWA 8 hours: 40 ppm.  TWA 8 hours: 70 mg/m<sup>3</sup>.  STEL 15 minutes: 60 ppm.  STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b>  Absorbed through skin.  TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg)
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

- Miscible with water** : Yes.

## Section 9. Physical and chemical properties and safety characteristics

<b>Partition coefficient: n-octanol/water</b>	: -0.34
<b>Auto-ignition temperature</b>	: 524°C (975.2°F)
<b>Decomposition temperature</b>	: 120°C (248°F)
<b>Viscosity</b>	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

<b>Median particle size</b>	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50 Rat - Inhalation - LC50 Vapor 2460 mg/kg 17100 ppm [4 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.

#### Skin corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Serious eye damage/eye irritation

<b>Conclusion/Summary [Product]</b>	: Not available.
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#### Respiratory corrosion/irritation

<b>Conclusion/Summary [Product]</b>	: <input checked="" type="checkbox"/> May cause respiratory irritation.
-------------------------------------	---

Ingredient name	Conclusion/Summary
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## Section 11. Toxicological information

Acetonitrile

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

**Conclusion/Summary [Product]** : Not available.

#### Respiratory

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : Harmful if inhaled.

**Skin contact** : Harmful in contact with skin.

**Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : No specific data.

**Skin contact** : No specific data.

## Section 11. Toxicological information

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 8 Acetonitrile	500.6 500	1101.3 1100	N/A N/A	11.0 11	N/A N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

Acetonitrile

#### Result

Acute - LC50 - Fresh water 3600 mg/l [48 hours]  
 Acute - IC50 - Fresh water 3685 mg/l [96 hours]  
 Chronic - NOEC - Fresh water 160 mg/l [21 days]  
 Chronic - NOEC - Fresh water 1000 mg/l [96 hours]  
 Acute - LC50 - Fresh water 1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

Acetonitrile

#### Result

OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

## Section 12. Ecological information

**Conclusion/Summary** : Not available.  
**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 8	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

### Additional information

Remarks: De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : **Clean Water Act (CWA) 307:** Acetonitrile

#### TSCA 12(b) - Chemical export notification

Not applicable.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

#### SARA 311/312

Classification : **FLAMMABLE LIQUIDS** - Category 2  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (dermal) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
EYE IRRITATION - Category 2A

##### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

#### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥90
Supplier notification	Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Diphenylhydantoin, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Primidone, which is known to the State of California to cause cancer, and Carbamazepine, Topiramate and Valproate, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Diphenylhydantoin	-	-
Carbamazepine	-	-
Primidone	-	-
Topiramate	-	-
Valproate	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

**New Zealand** : Not determined.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

## Section 15. Regulatory information

Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### History

Date of issue/Date of revision	: 02/28/2025
Date of previous issue	: 07/02/2014
Version	: 1

### Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
DOT = Department of Transportation
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
TDG = Transportation of Dangerous Goods
UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.**

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 6

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 6  
**Part no.** : 5190-0565  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification


### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

**H225** FLAMMABLE LIQUIDS - Category 2  
**H302** ACUTE TOXICITY (oral) - Category 4  
**H312** ACUTE TOXICITY (dermal) - Category 4  
**H332** ACUTE TOXICITY (inhalation) - Category 4  
**H319** EYE IRRITATION - Category 2A

### 2.2 GHS label elements

**Hazard pictograms** : 

**Signal word** : Danger

**Hazard statements** : H225 - Highly flammable liquid and vapor.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.

### Precautionary statements

**Prevention** : P280 - Wear protective gloves and protective clothing. Wear eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.  
 P302 + P312 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical advice or attention.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Acetonitrile	≥90	CAS: 75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention if adverse health effects persist or are severe. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled.
- Skin contact** : Harmful in contact with skin.
- Ingestion** : Harmful if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
cyanides

### 5.3 Advice for firefighters

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** :  No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** :  Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- Store between the following temperatures: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible

## Section 7. Handling and storage

materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** :  Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Acetonitrile	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 20 ppm. TWA 10 hours: 34 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b> Absorbed through skin. STEL 15 minutes: 105 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. TWA 8 hours: 40 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m<sup>3</sup>. STEL 15 minutes: 60 ppm. STEL 15 minutes: 105 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024) A4.</b> Absorbed through skin. TWA 8 hours: 20 ppm.</p>

#### Biological exposure indices

No exposure indices known.

### 8.2 Exposure controls

#### Appropriate engineering controls

- Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : 42 ppm
- pH** : Not available.
- Melting point/freezing point** : 45.7°C (-50.3°F)
- Boiling point or initial boiling point and boiling range** : 81.6°C (178.9°F)
- Flash point** : Closed cup: 12.8°C (55°F)
- Evaporation rate** : 2.33 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 3%  
Upper: 16%
- Vapor pressure** : 9.5 kPa (70.88853 mm Hg) [room temperature]  
Not applicable. [50°C (122°F)]
- Relative vapor density** : 1.4 [Air = 1]
- Relative density** : 0.8
- Density** : 0.7868 g/cm<sup>3</sup> [20°C (68°F)]

Solubility(ies)	Media	Result
	Water	Soluble
	methanol	Soluble
	acetone	Soluble

## Section 9. Physical and chemical properties and safety characteristics

Miscible with water	: <input checked="" type="checkbox"/> Yes.
Partition coefficient: n-octanol/water	: -0.34
Auto-ignition temperature	: 524°C (975.2°F)
Decomposition temperature	: 120°C (248°F)
Viscosity	: <input checked="" type="checkbox"/> Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

### Particle characteristics

Median particle size	: <input checked="" type="checkbox"/> Not applicable.
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## Section 10. Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
10.5 Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials <input checked="" type="checkbox"/> Reactive or incompatible with the following materials: acids.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
<input checked="" type="checkbox"/> Acetonitrile	Rat - Oral - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapor	17100 ppm [4 hours]

Conclusion/Summary [Product]	: Not available.
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#### Skin corrosion/irritation

Conclusion/Summary [Product]	: Not available.
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#### Serious eye damage/eye irritation

Conclusion/Summary [Product]	: Not available.
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#### Respiratory corrosion/irritation

Conclusion/Summary [Product]	: <input checked="" type="checkbox"/> May cause respiratory irritation.
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## Section 11. Toxicological information

### Ingredient name

Acetonitrile

### Conclusion/Summary

May cause respiratory irritation.

### Respiratory or skin sensitization

#### Skin

Conclusion/Summary : Not available.  
[Product]

#### Respiratory

Conclusion/Summary : Not available.  
[Product]

### Germ cell mutagenicity

Conclusion/Summary : Not available.  
[Product]

### Carcinogenicity

Not available.

Conclusion/Summary : Not available.  
[Product]

### Reproductive toxicity

Conclusion/Summary : Not available.  
[Product]

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled.

Skin contact : Harmful in contact with skin.

Ingestion : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

Inhalation : No specific data.

## Section 11. Toxicological information

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** :  No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** :  No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 6 Acetonitrile	501.3 500	1102.9 1100	N/A N/A	11.0 11	N/A N/A

**Other information** :  Adverse symptoms may include the following: May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

## Section 12. Ecological information

### 12.1 Toxicity

#### Product/ingredient name

#### Result

<input checked="" type="checkbox"/> Acetonitrile	Acute - LC50 - Fresh water	3600 mg/l [48 hours]
	Acute - IC50 - Fresh water	3685 mg/l [96 hours]
	Chronic - NOEC - Fresh water	160 mg/l [21 days]
	Chronic - NOEC - Fresh water	1000 mg/l [96 hours]
	Acute - LC50 - Fresh water	1000 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

#### Product/ingredient name

#### Result

## Section 12. Ecological information

Acetonitrile OECD [Ready Biodegradability - CO<sub>2</sub> in Sealed Vessels (Headspace Test)] 70% [21 days] - Readily -

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Acetonitrile	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 6	-0.34	-	Low
Acetonitrile	-0.34	3	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Acetonitrile (I,T)	75-05-8	Listed	U003

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

## Section 13. Disposal considerations

for additional handling information and protection of employees.

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

**IATA**

### Additional information

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**U.S. Federal regulations** : **Clean Water Act (CWA) 307:** Acetonitrile

#### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

**Classification** : **FLAMMABLE LIQUIDS** - Category 2  
**ACUTE TOXICITY (oral)** - Category 4  
**ACUTE TOXICITY (dermal)** - Category 4  
**ACUTE TOXICITY (inhalation)** - Category 4  
**EYE IRRITATION** - Category 2A

##### Composition/information on ingredients

Name	%	Classification
Acetonitrile	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A

## Section 15. Regulatory information

### SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Acetonitrile	75-05-8	≥90
Supplier notification	Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: ACETONITRILE

**New York** : The following components are listed: Acetonitrile

**New Jersey** : The following components are listed: ACETONITRILE

**Pennsylvania** : The following components are listed: ACETONITRILE

### California Prop. 65

**WARNING:** This product can expose you to Amoxapine, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Amoxapine	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.

**New Zealand** : Not determined.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

**Taiwan** : Not determined.

**Thailand** : Not determined.

**Turkey** : Not determined.

**United States** : At least one component is inactive.

## Section 15. Regulatory information

**Viet Nam** : Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A	On basis of test data Calculation method Calculation method Calculation method Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : 07/02/2014

**Version** : 4

### Key to abbreviations

ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 10A

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 10A  
**Part no.** : 5190-6167A  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2  
 H301 ACUTE TOXICITY (oral) - Category 3  
 H311 ACUTE TOXICITY (dermal) - Category 3  
 H331 ACUTE TOXICITY (inhalation) - Category 3  
 H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### 2.2 GHS label elements

**Hazard pictograms** : 

**Signal word** : Danger

**Hazard statements** : H225 - Highly flammable liquid and vapor.  
 H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.  
 H370 - Causes damage to organs.

### Precautionary statements

**Prevention** : P280 - Wear protective gloves and protective clothing.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P260 - Do not breathe vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P308 + P311 - IF exposed: Call a POISON CENTER or doctor.  
 P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor.  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
 P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.  
 P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Methanol	≥90	CAS: 67-56-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.
- Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
- Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
Formaldehyde.

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Methanol	<p><b>NIOSH REL (United States, 10/2020)</b>            Absorbed through skin.            TWA 10 hours: 200 ppm.            TWA 10 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b>            Absorbed through skin.            STEL 15 minutes: 325 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            C: 1000 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            TWA 8 hours: 200 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b>            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 262 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 328 mg/m<sup>3</sup>.</p>

#### Biological exposure indices

Ingredient name	Exposure indices
Methanol	<p><b>ACGIH BEI (United States, 1/2024)</b>            BEI: 15 mg/l, methanol [in urine]. Sampling time: end of shift.</p>

### 8.2 Exposure controls

#### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

##### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -97.8°C (-144°F)
- Boiling point or initial boiling point and boiling range** : 64.7°C (148.5°F)
- Flash point** : Closed cup: 9.7°C (49.5°F)
- Evaporation rate** : 2.1 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 6%  
Upper: 44%
- Vapor pressure** : 16.9 kPa (126.96329 mm Hg)
- Relative vapor density** : 1.1 [Air = 1]
- Relative density** : 0.79
- Density** : 0.7915 g/cm<sup>3</sup> [20°C (68°F)]

## Section 9. Physical and chemical properties and safety characteristics

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	water	Soluble
	methanol	Soluble
	n-octanol	Soluble
	acetone	Soluble
<b>Miscible with water</b>	: Yes.	
<b>Partition coefficient: n-octanol/water</b>	: -0.77	
<b>Auto-ignition temperature</b>	: 455°C (851°F)	
<b>Decomposition temperature</b>	: Not available.	
<b>Viscosity</b>	: Dynamic (room temperature): 0.54 to 0.59 mPa·s (0.54 to 0.59 cP) Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.	
<b>Particle characteristics</b>		
<b>Median particle size</b>	: Not applicable.	

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: metals and acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
Methanol	Rabbit - Dermal - LD50	15800 mg/kg
	Rat - Oral - LD50	5600 mg/kg
	Rat - Inhalation - LC50 Vapor	145000 ppm [1 hours]
	Rat - Inhalation - LC50 Vapor	64000 ppm [4 hours]
	Rat - Inhalation - LC50 Vapor	83.84 mg/l [4 hours]
	Rat - Inhalation - LC50 Vapor	189.95 mg/l [1 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.	

#### Skin corrosion/irritation

Product/ingredient name	Result

## Section 11. Toxicological information

Methanol Rabbit - Skin - Moderate irritant Duration of treatment/  
exposure: 24 hours

**Conclusion/Summary** : Repeated exposure may cause skin dryness or cracking.  
**[Product]**

**Ingredient name**

Methanol

**Conclusion/Summary**

Repeated exposure may cause skin dryness or cracking.

### Serious eye damage/eye irritation

Methanol **Result** Rabbit - Eyes - Moderate irritant Duration of treatment/  
exposure: 24 hours  
Rabbit - Eyes - Moderate irritant -  
Rabbit - Eyes - Severe irritant -

**Conclusion/Summary** : May cause eye irritation.  
**[Product]**

**Ingredient name**

Methanol

**Conclusion/Summary**

May cause eye irritation.

### Respiratory corrosion/irritation

**Product/ingredient name**

**Conclusion/Summary** : Not available.  
**[Product]**

### Respiratory or skin sensitization

**Skin**

**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory**

**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

Not available.

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Repeated or prolonged exposure to the substance can produce reproductive system  
**[Product]** damage.

**Ingredient name**

methanol

**Conclusion/Summary**

Repeated or prolonged exposure to the substance can produce reproductive system damage.

### Specific target organ toxicity (single exposure)

**Product/ingredient name**

**Result**

## Section 11. Toxicological information

Methanol

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.  
**Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.  
**Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 10A	100.0	300.0	N/A	3.0	N/A
Methanol	100	300	N/A	3	N/A

**Other information** : Adverse symptoms may include the following: blurred or double vision. Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage. Narcotic effect. May cause nervous system disturbances.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result
Methanol	Acute - LC50 - Marine water 2500 mg/l [48 hours] Acute - LC50 - Fresh water 290 mg/l [96 hours] Chronic - NOEC - Marine water 9.96 mg/l [96 hours] Acute - EC50 - Marine water 2736 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methanol	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 10A	-0.77	-	Low
Methanol	-0.77	<10	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered

## Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### [RCRA Toxic hazardous waste "U" List](#)

Ingredient	CAS #	Status	Reference number
Methanol (l)	67-56-1	Listed	U154

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

[DOT / TDG / Mexico / IMDG / IATA](#) : Not regulated.

### [Additional information](#)

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### [15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture](#)

#### U.S. Federal regulations

##### [TSCA 12\(b\) - Chemical export notification](#)

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## Section 15. Regulatory information

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 2  
 ACUTE TOXICITY (oral) - Category 3  
 ACUTE TOXICITY (dermal) - Category 3  
 ACUTE TOXICITY (inhalation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

#### Composition/information on ingredients

Name	%	Classification
Methanol	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Methanol	67-56-1	≥90
<b>Supplier notification</b>	Methanol	67-56-1	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: METHANOL  
**New York** : The following components are listed: Methanol  
**New Jersey** : The following components are listed: METHYL ALCOHOL  
**Pennsylvania** : The following components are listed: METHANOL

### California Prop. 65

**⚠ WARNING:** This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Methanol	-	Yes.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## Section 15. Regulatory information

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 3	Calculation method
ACUTE TOXICITY (dermal) - Category 3	Calculation method
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1	Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : No previous validation

**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

📌 Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.**

# SAFETY DATA SHEET



Forensic Toxicology Comprehensive Mix – Submix 10B

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 10B  
**Part no.** : 5190-6167B  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
 1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
 5301 Stevens Creek Blvd  
 Santa Clara, CA 95051, USA  
 800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2  
 H301 ACUTE TOXICITY (oral) - Category 3  
 H311 ACUTE TOXICITY (dermal) - Category 3  
 H331 ACUTE TOXICITY (inhalation) - Category 3  
 H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### 2.2 GHS label elements

**Hazard pictograms** : 

**Signal word** : Danger

**Hazard statements** : H225 - Highly flammable liquid and vapor.  
 H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.  
 H370 - Causes damage to organs.

### Precautionary statements

**Prevention** : P280 - Wear protective gloves and protective clothing.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
 P242 - Use non-sparking tools.  
 P243 - Take action to prevent static discharges.  
 P233 - Keep container tightly closed.  
 P260 - Do not breathe vapor.  
 P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P308 + P311 - IF exposed: Call a POISON CENTER or doctor.  
 P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor.  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
 P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.  
 P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Methanol	≥90	CAS: 67-56-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.
- Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
- Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
Formaldehyde.

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Methanol	<p><b>NIOSH REL (United States, 10/2020)</b>            Absorbed through skin.            TWA 10 hours: 200 ppm.            TWA 10 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b>            Absorbed through skin.            STEL 15 minutes: 325 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            C: 1000 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            TWA 8 hours: 200 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b>            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 262 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 328 mg/m<sup>3</sup>.</p>

#### Biological exposure indices

Ingredient name	Exposure indices
Methanol	<p><b>ACGIH BEI (United States, 1/2024)</b>            BEI: 15 mg/l, methanol [in urine]. Sampling time: end of shift.</p>

### 8.2 Exposure controls

#### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

##### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -97.8°C (-144°F)
- Boiling point or initial boiling point and boiling range** : 64.7°C (148.5°F)
- Flash point** : Closed cup: 9.7°C (49.5°F)
- Evaporation rate** : 2.1 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 6%  
Upper: 44%
- Vapor pressure** : 16.9 kPa (126.96329 mm Hg)
- Relative vapor density** : 1.1 [Air = 1]
- Relative density** : 0.79
- Density** : 0.7915 g/cm<sup>3</sup> [20°C (68°F)]

## Section 9. Physical and chemical properties and safety characteristics

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	water	Soluble
	methanol	Soluble
	n-octanol	Soluble
	acetone	Soluble
<b>Miscible with water</b>	: Yes.	
<b>Partition coefficient: n-octanol/water</b>	: -0.77	
<b>Auto-ignition temperature</b>	: 455°C (851°F)	
<b>Decomposition temperature</b>	: Not available.	
<b>Viscosity</b>	: Dynamic (room temperature): 0.54 to 0.59 mPa·s (0.54 to 0.59 cP) Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.	
<b>Particle characteristics</b>		
<b>Median particle size</b>	: Not applicable.	

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: metals and acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
Methanol	Rabbit - Dermal - LD50	15800 mg/kg
	Rat - Oral - LD50	5600 mg/kg
	Rat - Inhalation - LC50 Vapor	145000 ppm [1 hours]
	Rat - Inhalation - LC50 Vapor	64000 ppm [4 hours]
	Rat - Inhalation - LC50 Vapor	83.84 mg/l [4 hours]
	Rat - Inhalation - LC50 Vapor	189.95 mg/l [1 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.	

#### Skin corrosion/irritation

Product/ingredient name	Result

## Section 11. Toxicological information

Methanol Rabbit - Skin - Moderate irritant Duration of treatment/  
exposure: 24 hours

**Conclusion/Summary [Product]** : Repeated exposure may cause skin dryness or cracking.

**Ingredient name**

Methanol

**Conclusion/Summary**

Repeated exposure may cause skin dryness or cracking.

### Serious eye damage/eye irritation

Methanol **Result** Rabbit - Eyes - Moderate irritant Duration of treatment/  
exposure: 24 hours  
Rabbit - Eyes - Moderate irritant -  
Rabbit - Eyes - Severe irritant -

**Conclusion/Summary [Product]** : May cause eye irritation.

**Ingredient name**

Methanol

**Conclusion/Summary**

May cause eye irritation.

### Respiratory corrosion/irritation

**Product/ingredient name**

**Conclusion/Summary [Product]** : Not available.

### Respiratory or skin sensitization

**Skin**

**Conclusion/Summary [Product]** : Not available.

**Respiratory**

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Repeated or prolonged exposure to the substance can produce reproductive system damage.

**Ingredient name**

methanol

**Conclusion/Summary**

Repeated or prolonged exposure to the substance can produce reproductive system damage.

### Specific target organ toxicity (single exposure)

**Product/ingredient name**

**Result**

## Section 11. Toxicological information

Methanol

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.  
**Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.  
**Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### **Short term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### **Long term exposure**

**Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 10B	100.0	300.0	N/A	3.0	N/A
Methanol	100	300	N/A	3	N/A

**Other information** : Adverse symptoms may include the following: blurred or double vision. Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage. Narcotic effect. May cause nervous system disturbances.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result
Methanol	Acute - LC50 - Marine water Acute - LC50 - Fresh water Chronic - NOEC - Marine water Acute - EC50 - Marine water
	2500 mg/l [48 hours] 290 mg/l [96 hours] 9.96 mg/l [96 hours] 2736 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methanol	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 10B	-0.77	-	Low
Methanol	-0.77	<10	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered

## Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### [RCRA Toxic hazardous waste "U" List](#)

Ingredient	CAS #	Status	Reference number
Methanol (l)	67-56-1	Listed	U154

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

[DOT / TDG / Mexico / IMDG / IATA](#) : Not regulated.

### [Additional information](#)

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### [15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture](#)

#### U.S. Federal regulations

##### [TSCA 12\(b\) - Chemical export notification](#)

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## Section 15. Regulatory information

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 2  
 ACUTE TOXICITY (oral) - Category 3  
 ACUTE TOXICITY (dermal) - Category 3  
 ACUTE TOXICITY (inhalation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

#### Composition/information on ingredients

Name	%	Classification
Methanol	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Methanol	67-56-1	≥90
<b>Supplier notification</b>	Methanol	67-56-1	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: METHANOL  
**New York** : The following components are listed: Methanol  
**New Jersey** : The following components are listed: METHYL ALCOHOL  
**Pennsylvania** : The following components are listed: METHANOL

### California Prop. 65

**⚠ WARNING:** This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Methanol	-	Yes.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## Section 15. Regulatory information

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 3	Calculation method
ACUTE TOXICITY (dermal) - Category 3	Calculation method
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1	Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : No previous validation

**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

📌 Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.**

# SAFETY DATA SHEET

Forensic Toxicology Comprehensive Mix – Submix 10C

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Forensic Toxicology Comprehensive Mix – Submix 10C  
**Part no.** : 5190-6167C  
**Validation date** : 2/28/2025

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** : For forensic use (FFU)  
1 ml

### 1.3 Details of the supplier of the safety data sheet

**Supplier/Manufacturer** : Agilent Technologies, Inc.  
5301 Stevens Creek Blvd  
Santa Clara, CA 95051, USA  
800-227-9770

### 1.4 Emergency telephone number

**In case of emergency** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

H225 FLAMMABLE LIQUIDS - Category 2  
H301 ACUTE TOXICITY (oral) - Category 3  
H311 ACUTE TOXICITY (dermal) - Category 3  
H331 ACUTE TOXICITY (inhalation) - Category 3  
H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### 2.2 GHS label elements

#### **Hazard pictograms** :



#### **Signal word** :

Danger

#### **Hazard statements** :

H225 - Highly flammable liquid and vapor.  
H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.  
H370 - Causes damage to organs.

### Precautionary statements

#### **Prevention** :

P280 - Wear protective gloves and protective clothing.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P241 - Use explosion-proof electrical, ventilating or lighting equipment.  
P242 - Use non-sparking tools.  
P243 - Take action to prevent static discharges.  
P233 - Keep container tightly closed.  
P260 - Do not breathe vapor.  
P270 - Do not eat, drink or smoke when using this product.

## Section 2. Hazards identification

- Response** : P264 - Wash thoroughly after handling.  
 : P308 + P311 - IF exposed: Call a POISON CENTER or doctor.  
 P304 + P340, P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor.  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
 P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.  
 P361 + P364 - Take off immediately all contaminated clothing and wash it before reuse.
- Storage** : P403 + P235 - Store in a well-ventilated place. Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### 2.3 Other hazards

- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture

Ingredient name	%	Identifiers
Methanol	≥90	CAS: 67-56-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 4. First aid measures

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.
- Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
- Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
Formaldehyde.

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- 7.2 Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 0 to 4°C (32 to 39.2°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

- Recommendations** : Industrial applications, Professional applications.
- Industrial sector specific solutions** : Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Methanol	<p><b>NIOSH REL (United States, 10/2020)</b>            Absorbed through skin.            TWA 10 hours: 200 ppm.            TWA 10 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 5/2018)</b>            Absorbed through skin.            STEL 15 minutes: 325 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            C: 1000 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            TWA 8 hours: 200 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b>            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 260 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 325 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2024)</b>            Absorbed through skin.            TWA 8 hours: 200 ppm.            TWA 8 hours: 262 mg/m<sup>3</sup>.            STEL 15 minutes: 250 ppm.            STEL 15 minutes: 328 mg/m<sup>3</sup>.</p>

#### Biological exposure indices

Ingredient name	Exposure indices
Methanol	<p><b>ACGIH BEI (United States, 1/2024)</b>            BEI: 15 mg/l, methanol [in urine]. Sampling time: end of shift.</p>

### 8.2 Exposure controls

#### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

##### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

## Section 8. Exposure controls/personal protection

- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : -97.8°C (-144°F)
- Boiling point or initial boiling point and boiling range** : 64.7°C (148.5°F)
- Flash point** : Closed cup: 9.7°C (49.5°F)
- Evaporation rate** : 2.1 (butyl acetate = 1)
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 6%  
Upper: 44%
- Vapor pressure** : 16.9 kPa (126.96329 mm Hg)
- Relative vapor density** : 1.1 [Air = 1]
- Relative density** : 0.79
- Density** : 0.7915 g/cm<sup>3</sup> [20°C (68°F)]

## Section 9. Physical and chemical properties and safety characteristics

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	water	Soluble
	methanol	Soluble
	n-octanol	Soluble
	acetone	Soluble
<b>Miscible with water</b>	: Yes.	
<b>Partition coefficient: n-octanol/water</b>	: -0.77	
<b>Auto-ignition temperature</b>	: 455°C (851°F)	
<b>Decomposition temperature</b>	: Not available.	
<b>Viscosity</b>	: Dynamic (room temperature): 0.54 to 0.59 mPa·s (0.54 to 0.59 cP) Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.	
<b>Particle characteristics</b>		
<b>Median particle size</b>	: Not applicable.	

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
<b>10.5 Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: metals and acids.
<b>10.6 Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	
Methanol	Rabbit - Dermal - LD50	15800 mg/kg
	Rat - Oral - LD50	5600 mg/kg
	Rat - Inhalation - LC50 Vapor	145000 ppm [1 hours]
	Rat - Inhalation - LC50 Vapor	64000 ppm [4 hours]
	Rat - Inhalation - LC50 Vapor	83.84 mg/l [4 hours]
	Rat - Inhalation - LC50 Vapor	189.95 mg/l [1 hours]
<b>Conclusion/Summary [Product]</b>	: Not available.	

#### Skin corrosion/irritation

Product/ingredient name	Result

## Section 11. Toxicological information

Methanol Rabbit - Skin - Moderate irritant Duration of treatment/  
exposure: 24 hours

**Conclusion/Summary [Product]** : Repeated exposure may cause skin dryness or cracking.

**Ingredient name**

Methanol

**Conclusion/Summary**

Repeated exposure may cause skin dryness or cracking.

### Serious eye damage/eye irritation

Methanol **Result** Rabbit - Eyes - Moderate irritant Duration of treatment/  
exposure: 24 hours  
Rabbit - Eyes - Moderate irritant -  
Rabbit - Eyes - Severe irritant -

**Conclusion/Summary [Product]** : May cause eye irritation.

**Ingredient name**

Methanol

**Conclusion/Summary**

May cause eye irritation.

### Respiratory corrosion/irritation

**Product/ingredient name**

**Conclusion/Summary [Product]** : Not available.

### Respiratory or skin sensitization

**Skin**

**Conclusion/Summary [Product]** : Not available.

**Respiratory**

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Repeated or prolonged exposure to the substance can produce reproductive system damage.

**Ingredient name**

methanol

**Conclusion/Summary**

Repeated or prolonged exposure to the substance can produce reproductive system damage.

### Specific target organ toxicity (single exposure)

**Product/ingredient name**

**Result**

## Section 11. Toxicological information

Methanol

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.
- Skin contact** : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.
- Ingestion** : Toxic if swallowed. Causes damage to organs following a single exposure if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects

**Conclusion/Summary [Product]** : Not available.

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Forensic Toxicology Comprehensive Mix – Submix 10C	100.0	300.0	N/A	3.0	N/A
Methanol	100	300	N/A	3	N/A

**Other information** : Adverse symptoms may include the following: blurred or double vision. Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage. Narcotic effect. May cause nervous system disturbances.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result
Methanol	Acute - LC50 - Marine water 2500 mg/l [48 hours] Acute - LC50 - Fresh water 290 mg/l [96 hours] Chronic - NOEC - Marine water 9.96 mg/l [96 hours] Acute - EC50 - Marine water 2736 mg/l [96 hours]

**Conclusion/Summary [Product]** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Methanol	-	-	Readily

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Forensic Toxicology Comprehensive Mix – Submix 10C	-0.77	-	Low
Methanol	-0.77	<10	Low

### 12.4 Mobility in soil

**Soil/Water partition coefficient** : Not available.

**12.5 Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered

## Section 13. Disposal considerations

when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Methanol (l)	67-56-1	Listed	U154

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

## Section 14. Transport information

**DOT / TDG / Mexico / IMDG / IATA** : Not regulated.

### Additional information

**Remarks:** De minimis quantities

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### U.S. Federal regulations

##### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## Section 15. Regulatory information

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : FLAMMABLE LIQUIDS - Category 2  
 ACUTE TOXICITY (oral) - Category 3  
 ACUTE TOXICITY (dermal) - Category 3  
 ACUTE TOXICITY (inhalation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

#### Composition/information on ingredients

Name	%	Classification
Methanol	≥90	FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	Methanol	67-56-1	≥90
<b>Supplier notification</b>	Methanol	67-56-1	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: METHANOL  
**New York** : The following components are listed: Methanol  
**New Jersey** : The following components are listed: METHYL ALCOHOL  
**Pennsylvania** : The following components are listed: METHANOL

### California Prop. 65

**⚠ WARNING:** This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
Methanol	-	Yes.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

## Section 15. Regulatory information

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 3	Calculation method
ACUTE TOXICITY (dermal) - Category 3	Calculation method
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1	Calculation method

### History

**Date of issue/Date of revision** : 02/28/2025

**Date of previous issue** : No previous validation

**Version** : 1

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 TDG = Transportation of Dangerous Goods  
 UN = United Nations

📌 Indicates information that has changed from previously issued version.

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