

SAFETY DATA SHEET

GC/MS Forensic Toxicology Checkout Mixture

Section 1. Identification

Product identifier : GC/MS Forensic Toxicology Checkout Mixture

Part no. : 5190-0471

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

Identified uses : For forensic use (FFU)
5190-0471-1 GC/MS Forensic Toxicology Checkout Mixture 3 x 1 ml

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

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

H225	FLAMMABLE LIQUIDS - Category 2
H301	ACUTE TOXICITY (oral) - Category 3
H315	SKIN IRRITATION - Category 2
H361	TOXIC TO REPRODUCTION - Category 2
H371	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
H304	ASPIRATION HAZARD - Category 1
H412	AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapor.
H301 - Toxic if swallowed.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H361 - Suspected of damaging fertility or the unborn child.
H371 - May cause damage to organs.
H373 - May cause damage to organs through prolonged or repeated exposure. (nervous system)
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Section 2. Hazard identification

- Prevention** : P201 - Obtain special instructions before use.
 P280 - Wear protective gloves, protective clothing and eye or face protection.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapor.
 P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash thoroughly after handling.
- Response** : P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
 P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
 P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
 P302 + P352 - IF ON SKIN: Wash with plenty of water.
 P362 + P364 - Take off contaminated clothing and wash it before reuse.
- Storage** : P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: > 60%

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	Synonyms	% (w/w)	Identifiers	
Toluene	Toluene	≥80	CAS: 108-88-3	-
Methanol	methyl alcohol	≥1 - ≤5	CAS: 67-56-1	-
Acetonitrile	Acetonitrile	≥1 - ≤5	CAS: 75-05-8	-

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

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. 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.

Section 4. First-aid measures

- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : May cause damage to organs following a single exposure in contact with skin. Causes skin irritation.
- Ingestion** : Toxic if swallowed. May cause damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

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.

Section 4. First-aid measures

- 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- 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. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
cyanides
Formaldehyde.

- 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

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".

- 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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Section 6. Accidental release measures

- 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

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. Avoid release to the environment. 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.

- Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 4°C (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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Toluene	<p>CA Saskatchewan Provincial (Canada, 4/2021) Absorbed through skin. STEL 15 minutes: 60 ppm. TWA 8 hours: 50 ppm.</p> <p>CA British Columbia Provincial (Canada, 3/2025) Repr. TWA 8 hours: 20 ppm.</p> <p>CA Ontario Provincial (Canada, 6/2019) TWA 8 hours: 20 ppm.</p> <p>CA Quebec Provincial (Canada, 2/2024) Ototoxicant. TWAEV 8 hours: 20 ppm.</p> <p>CA Alberta Provincial (Canada, 3/2023) Absorbed through skin.</p>

Section 8. Exposure controls/personal protection

Methanol	<p>OEL 8 hours: 50 ppm. OEL 8 hours: 188 mg/m³.</p> <p>CA Saskatchewan Provincial (Canada, 4/2021) Absorbed through skin. STEL 15 minutes: 250 ppm. TWA 8 hours: 200 ppm.</p> <p>CA British Columbia Provincial (Canada, 3/2025) Absorbed through skin. TWA 8 hours: 200 ppm. STEL 15 minutes: 250 ppm.</p> <p>CA Ontario Provincial (Canada, 6/2019) Absorbed through skin. TWA 8 hours: 200 ppm. STEL 15 minutes: 250 ppm.</p> <p>CA Quebec Provincial (Canada, 2/2024) Absorbed through skin. TWAEV 8 hours: 200 ppm. TWAEV 8 hours: 262 mg/m³. STEV 15 minutes: 250 ppm. STEV 15 minutes: 328 mg/m³.</p> <p>CA Alberta Provincial (Canada, 3/2023) Absorbed through skin. OEL 8 hours: 262 mg/m³. OEL 8 hours: 200 ppm. OEL 15 minutes: 250 ppm. OEL 15 minutes: 328 mg/m³.</p>
Acetonitrile	<p>CA Saskatchewan Provincial (Canada, 4/2021) Absorbed through skin. STEL 15 minutes: 30 ppm. TWA 8 hours: 20 ppm.</p> <p>CA British Columbia Provincial (Canada, 3/2025) Absorbed through skin. TWA 8 hours: 20 ppm.</p> <p>CA Ontario Provincial (Canada, 6/2019) Absorbed through skin. TWA 8 hours: 20 ppm.</p> <p>CA Quebec Provincial (Canada, 2/2024) Absorbed through skin. TWAEV 8 hours: 20 ppm.</p> <p>CA Alberta Provincial (Canada, 3/2023) OEL 8 hours: 34 mg/m³. OEL 8 hours: 20 ppm.</p>

Biological exposure indices

No exposure indices known.

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.

Section 8. Exposure controls/personal protection

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.
- 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

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

Appearance

- Physical state** : Liquid.
- Color** : Colorless.
- Odor** : Benzene-like.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Closed cup: -18 to 23°C (-0.4 to 73.4°F)
- Evaporation rate** : >1 (butyl acetate = 1)
- Flammability (solid, gas)** : Not applicable.
- Upper/lower flammability or explosive limits** : Not available.
- Vapor pressure** :

Section 9. Physical and chemical properties

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
methanol	126.96329	16.9	-	-	-	-
acetonitrile	70.88853	9.5	-	-	-	-

Vapor density : Not available.

Relative density : 0.858

Density : 0.858 g/cm³

Solubility :

Media	Result
methanol	Soluble
diethyl ether	Soluble
acetone	Soluble
water	Insoluble

Miscible with water : No.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
methanol	455	851	DIN 51794
toluene	480	896	-

Decomposition temperature : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

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.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
oluene	Rat - Dermal - LD50	12000 mg/kg
	Rat - Inhalation - LC50 Vapor	49 g/m ³ [4 hours]
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]
Acetonitrile	Rat - Inhalation - LC50 Vapor	189.95 mg/l [1 hours]
	Rat - Oral - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapor	17100 ppm [4 hours]

Conclusion/Summary [Product] : Not available.

Skin corrosion/irritation

Product/ingredient name	Result	
oluene	Rabbit - Skin - Mild irritant	Amount/concentration applied: 435 mg
	Pig - Skin - Mild irritant	Duration of treatment/exposure: 24 hours
	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 250 uL
	Rabbit - Skin - Moderate irritant	Duration of treatment/exposure: 24 hours
Methanol	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 20 mg
	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 500 mg
	Rabbit - Skin - Moderate irritant	Duration of treatment/exposure: 24 hours
	Rabbit - Skin - Moderate irritant	Amount/concentration applied: 20 mg

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

Product/ingredient name	Result	
oluene	Rabbit - Eyes - Mild irritant	Duration of treatment/exposure: 0.5 minutes
	Rabbit - Eyes - Mild irritant	Amount/concentration applied: 100 mg
Methanol	Rabbit - Eyes - Moderate irritant	Amount/concentration applied: 870 ug
	Rabbit - Eyes - Moderate irritant	Duration of treatment/exposure: 24 hours
	Rabbit - Eyes - Moderate irritant	Amount/concentration applied: 100 mg
	Rabbit - Eyes - Moderate irritant	Amount/concentration applied: 40 mg
	Rabbit - Eyes - Severe irritant	Amount/concentration applied: 0.1 MI

Section 11. Toxicological information

Acetonitrile

Rabbit - Eyes - Moderate irritant

Duration of treatment/
exposure: 24 hours
Amount/concentration
applied: 100 uL

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

Ingredient name

Methanol

Conclusion/Summary

May cause eye irritation.

Respiratory corrosion/irritation

Conclusion/Summary
[Product] : Not available.

Ingredient name

Acetonitrile

Conclusion/Summary

May cause respiratory irritation.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary
[Product] : Not available.

Ingredient name

Acetonitrile

Conclusion/Summary

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

Conclusion/Summary
[Product] : Not available.

Classification

Product/ingredient name	IARC	NTP	ACGIH
Toluene	3	-	A4
Acetonitrile	-	-	A4

Reproductive toxicity

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

Ingredient name**Conclusion/Summary**

Section 11. Toxicological information

Methanol

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

Specific target organ toxicity (single exposure)

Product/ingredient name

Result

Toluene

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Methanol

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

Specific target organ toxicity (repeated exposure)

Product/ingredient name

Result

Toluene

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) (inhalation) - Category 2

Aspiration hazard

Product/ingredient name

Result

GC/MS Forensic Toxicology Checkout Mixture
Toluene

ASPIRATION HAZARD - Category 1

ASPIRATION HAZARD - Category 1

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

: May cause damage to organs following a single exposure if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact

: May cause damage to organs following a single exposure in contact with skin. Causes skin irritation.

Ingestion

: Toxic if swallowed. May cause damage to organs following a single exposure if swallowed. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

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

Inhalation

: Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Section 11. Toxicological information

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

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 : May cause damage to organs through prolonged or repeated exposure.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

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)
GC/MS Forensic Toxicology Checkout Mixture	166.6	5147.6	N/A	51.5	N/A
Toluene	N/A	12000	N/A	49	N/A
Methanol	100	300	N/A	3	N/A
Acetonitrile	500	1100	N/A	11	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

Toxicity

Product/ingredient name	Result		
Toluene	Acute - EC50 - Fresh water	6000 µg/l [48 hours]	Daphnia - Water flea - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)
	Acute - LC50 - Fresh water	5500 µg/l [96 hours]	Fish - Coho salmon, silver salmon - <i>Oncorhynchus kisutch</i> - Fry
	Chronic - NOEC	0.74 mg/l [7 days]	Daphnia - <i>Ceriodaphnia dubia</i>
	Acute - EC50 - Fresh water	12.5 mg/l [72 hours]	Algae - Green algae - <i>Raphidocelis subcapitata</i>
Methanol	Acute - LC50 - Marine water	2500 mg/l [48 hours]	Crustaceans - Common shrimp, sand shrimp - <i>Crangon crangon</i> - Adult
	Acute - LC50 - Fresh water	290 mg/l [96 hours]	Fish - Zebra danio - <i>Danio rerio</i> - Egg
	Chronic - NOEC - Marine water	9.96 mg/l [96 hours]	Algae - Green algae - <i>Ulva pertusa</i>
Acetonitrile	Acute - EC50 - Marine water	2736 mg/l [96 hours]	Algae - Green algae - <i>Ulva pertusa</i>
	Acute - LC50 - Fresh water	3600 mg/l [48 hours]	Daphnia - Water flea - <i>Daphnia magna</i>
	Acute - IC50 - Fresh water	3685 mg/l [96 hours]	Aquatic plants - Duckweed - <i>Lemna minor</i>
	Chronic - NOEC - Fresh water	160 mg/l [21 days]	Daphnia - Water flea - <i>Daphnia magna</i>
	Chronic - NOEC - Fresh water	1000 mg/l [96 hours]	Aquatic plants - Duckweed - <i>Lemna minor</i>
	Acute - LC50 - Fresh water	1000 mg/l [96 hours]	Fish - Fathead minnow - <i>Pimephales promelas</i>

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Product/ingredient name	Result	
Acetonitrile	OECD [Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test)]	70% [21 days] - Readily -

Conclusion/Summary [Product] : Not available.

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

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Toluene	2.73	90	Low
Methanol	-0.77	<10	Low
Acetonitrile	-0.34	3	Low

Mobility in soil

Soil/Water partition coefficient : Not available.

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

Section 13. Disposal considerations

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.

Section 14. Transport information

TDG / 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.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : The following components are listed: toluene; methanol; acetonitrile

CEPA Toxic substances : None of the components are listed.

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)

Section 15. Regulatory information

Not listed.

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

Not listed.

[Inventory list](#)

Canada : Not determined.
United States : At least one component is inactive.

Section 16. Other information

[History](#)

Date of issue/Date of revision : 03/25/2026
Date of previous issue : 01/31/2022
Version : 10
Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 DOT = Department of Transportation
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 HPR = Hazardous Products Regulations
 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

[Procedure used to derive the classification](#)

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	Expert judgment
ACUTE TOXICITY (oral) - Category 3	Calculation method
SKIN IRRITATION - Category 2	Calculation method
TOXIC TO REPRODUCTION - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method
ASPIRATION HAZARD - Category 1	Expert judgment
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

Indicates information that has changed from previously issued version.

[Notice to reader](#)

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