

SAFETY DATA SHEET



GC/MS Forensic Toxicology Checkout Mixture

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : GC/MS Forensic Toxicology Checkout Mixture
Part no. : 5190-0471

1.2 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
Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies LDA UK Ltd.
 5500 Lakeside Cheadle Royal Business Park,
 Cheadle, Cheshire, SK8 3GR
 United Kingdom
 Tel: +44 (0) 345 712 5292
e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +44 20 3807 3798

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| | | |
|--|---|------------|
| <input checked="" type="checkbox"/> H225 | FLAMMABLE LIQUIDS | Category 2 |
| H301 | ACUTE TOXICITY (oral) | Category 3 |
| H315 | SKIN CORROSION/IRRITATION | Category 2 |
| H361d | REPRODUCTIVE TOXICITY | 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 | LONG-TERM (CHRONIC) AQUATIC HAZARD | Category 3 |

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

Ingredients of unknown toxicity : Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: > 60%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :   

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SECTION 2: Hazards identification

- Signal word** : Danger
- Hazard statements** : H225 - Highly flammable liquid and vapour.
 H301 - Toxic if swallowed.
 H304 - May be fatal if swallowed and enters airways.
 H315 - Causes skin irritation.
 H336 - May cause drowsiness or dizziness.
 H361d - Suspected of damaging the unborn child.
 H371 - May cause damage to organs.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

- Prevention** : 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.
 P260 - Do not breathe vapour.
- Response** : P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- 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.
- Hazardous ingredients** : toluene and methanol
- Supplemental label elements** : Not applicable.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

Special packaging requirements

- Containers to be fitted with child-resistant fastenings** : Not applicable.
- Tactile warning of danger** : Not applicable.

2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
- Other hazards which do not result in classification** : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

| Product/ingredient name | Identifiers | % | Classification | Type |
|---|---|-----|--|---------|
| <input checked="" type="checkbox"/> toluene | EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3 | ≥90 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 (nervous system) (inhalation) Asp. Tox. 1, H304 Aquatic Chronic 3, | [1] [2] |

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SECTION 3: Composition/information on ingredients

| | | | | |
|--------------|--|----|---|---------|
| methanol | EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X | ≤5 | H412 Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 | [1] [2] |
| acetonitrile | EC: 200-835-2 CAS: 75-05-8 Index: 608-001-00-3 | ≤5 | Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above. | [1] [2] |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of 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.

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.

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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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SECTION 4: First aid measures

- 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 foetal weight
 increase in foetal deaths
 skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
 irritation
 redness
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
 nausea or vomiting
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

4.3 Indication of any immediate medical attention and special treatment needed

- 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 5: Firefighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Highly flammable liquid and vapour. 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 combustion products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 cyanides
 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.

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SECTION 5: Firefighting measures

- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to British standard BS EN 469 will provide a basic level of protection for chemical incidents.

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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : Specialised 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 spilt 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.

6.3 Methods and material 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.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

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. Avoid breathing vapour 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. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Avoid release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not breathe vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid exposure during pregnancy. Do not swallow.
- 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

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SECTION 7: Handling and storage

Storage : 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 oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

| Category | Notification and MAPP threshold | Safety report threshold |
|----------|---------------------------------|-------------------------|
| P5c | 5000 tonnes | 50000 tonnes |

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

| Product/ingredient name | Exposure limit values |
|-------------------------|--|
| toluene | EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 384 mg/m ³ . TWA 8 hours: 191 mg/m ³ . TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm. |
| methanol | EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 333 mg/m ³ . STEL 15 minutes: 250 ppm. TWA 8 hours: 266 mg/m ³ . TWA 8 hours: 200 ppm. |
| acetonitrile | EH40/2005 WELs (United Kingdom (UK), 1/2020) STEL 15 minutes: 102 mg/m ³ . STEL 15 minutes: 60 ppm. TWA 8 hours: 40 ppm. TWA 8 hours: 68 mg/m ³ . |

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures

Reference should be made to monitoring standards, such as the following: British Standard BS EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) British Standard BS EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) British Standard BS EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name **Result**

SECTION 8: Exposure controls/personal protection

| | | | |
|---|---|--|------------------|
| toluene | DNEL - General population - Long term - Oral | 8.13 mg/kg bw/day | |
| | DNEL - General population - Long term - Inhalation | 56.5 mg/m ³ | |
| | DNEL - General population - Long term - Inhalation | 56.5 mg/m ³ | |
| | DNEL - Workers - Long term - Inhalation | 192 mg/m ³ | |
| | DNEL - Workers - Long term - Inhalation | 192 mg/m ³ | |
| | DNEL - General population - Long term - Dermal | 226 mg/kg bw/day | |
| | DNEL - General population - Short term - Inhalation | 226 mg/m ³ | |
| | DNEL - General population - Short term - Inhalation | 226 mg/m ³ | |
| | DNEL - Workers - Long term - Dermal | 384 mg/kg bw/day | |
| | DNEL - Workers - Short term - Inhalation | 384 mg/m ³ | |
| | DNEL - Workers - Short term - Inhalation | 384 mg/m ³ | |
| | methanol | DNEL - General population - Short term - Oral | 4 mg/kg bw/day |
| | | DNEL - General population - Long term - Oral | 4 mg/kg bw/day |
| DNEL - General population - Short term - Dermal | | 4 mg/kg bw/day | |
| DNEL - General population - Long term - Dermal | | 4 mg/kg bw/day | |
| DNEL - Workers - Short term - Dermal | | 20 mg/kg bw/day | |
| DNEL - Workers - Long term - Dermal | | 20 mg/kg bw/day | |
| DNEL - General population - Short term - Inhalation | | 26 mg/m ³ | |
| DNEL - General population - Long term - Inhalation | | 26 mg/m ³ | |
| DNEL - General population - Short term - Inhalation | | 26 mg/m ³ | |
| DNEL - General population - Long term - Inhalation | | 26 mg/m ³ | |
| DNEL - Workers - Short term - Inhalation | | 130 mg/m ³ | |
| DNEL - Workers - Long term - Inhalation | | 130 mg/m ³ | |
| DNEL - Workers - Short term - Inhalation | | 130 mg/m ³ | |
| DNEL - Workers - Long term - Inhalation | | 130 mg/m ³ | |
| acetonitrile | | DNEL - General population - Long term - Oral | 0.4 mg/kg bw/day |
| | | DNEL - General population - Short term - Oral | 0.6 mg/kg bw/day |
| | | DNEL - General population - Long term - Dermal | 1.2 mg/kg bw/day |
| | DNEL - General population - Long term - Inhalation | 2.4 mg/m ³ | |

PNECs

Not available.

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection

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, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. Refer to British Standard BS EN 1149 for further information on material and design requirements and test methods.

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.

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 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

| | |
|---|-------------------|
| Physical state | : Liquid. |
| Colour | : Colourless. |
| Odour | : Benzene-like. |
| Odour threshold | : Not available. |
| Melting point/freezing point | : Not available. |
| Initial boiling point and boiling range | : Not available. |
| Flammability | : Not applicable. |
| Lower and upper explosion limit/flammability limit | : Not available. |

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SECTION 9: Physical and chemical properties

Flash point : Closed cup: -18 to 23°C

Auto-ignition temperature

| Ingredient name | °C | Method |
|-----------------|-----|-----------|
| methanol | 455 | DIN 51794 |
| toluene | 480 | - |

Decomposition temperature : Not available.

pH : Not available.

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

| Media | Result |
|---------------|-----------|
| methanol | Soluble |
| diethyl ether | Soluble |
| acetone | Soluble |
| water | Insoluble |

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

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

Relative density : 0.858

Density : 0.858 g/cm³

Vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

Miscible with water : No.

Evaporation rate : >1 (butyl acetate = 1)

Physical/chemical properties comments : Not available.

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 pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

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SECTION 10: Stability and reactivity

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials

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"/> luene | Rat - Dermal - LD50 | 12000 mg/kg |
| | Rat - Inhalation - LC50 Vapour | 49 g/m ³ [4 hours] |
| methanol | Rabbit - Dermal - LD50 | 15800 mg/kg |
| | Rat - Oral - LD50 | 5600 mg/kg |
| | Rat - Inhalation - LC50 Vapour | 145000 ppm [1 hours] |
| | Rat - Inhalation - LC50 Vapour | 64000 ppm [4 hours] |
| | Rat - Inhalation - LC50 Vapour | 83.84 mg/l [4 hours] |
| acetonitrile | Rat - Inhalation - LC50 Vapour | 189.95 mg/l [1 hours] |
| | Rat - Oral - LD50 | 2460 mg/kg |
| | Rat - Inhalation - LC50 Vapour | 17100 ppm [4 hours] |

Conclusion/Summary : Not available.

[Product]

Acute toxicity estimates

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|--------------|----------------|--------------------------|-----------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> C/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 |

Skin corrosion/irritation

Product/ingredient name

Result

| | | |
|---|-----------------------------------|--|
| <input checked="" type="checkbox"/> luene | Rabbit - Skin - Mild irritant | Amount/concentration applied: 435 mg |
| | Pig - Skin - Mild irritant | Duration of treatment/exposure: 24 hours |
| | | Amount/concentration applied: 250 uL |
| | Rabbit - Skin - Moderate irritant | Duration of treatment/exposure: 24 hours |
| | | Amount/concentration applied: 20 mg |
| | Rabbit - Skin - Moderate irritant | Amount/concentration applied: 500 mg |
| methanol | Rabbit - Skin - Moderate irritant | Duration of treatment/exposure: 24 hours |
| | | Amount/concentration applied: 20 mg |

Conclusion/Summary : Repeated exposure may cause skin dryness or cracking.

[Product]

Ingredient name

Conclusion/Summary

| | |
|--|---|
| <input checked="" type="checkbox"/> methanol | Repeated exposure may cause skin dryness or cracking. |
|--|---|

Serious eye damage/eye irritation

Product/ingredient name

Result

SECTION 11: Toxicological information

| | | |
|--------------|-----------------------------------|--|
| toluene | Rabbit - Eyes - Mild irritant | Duration of treatment/ exposure: 0.5 minutes Amount/concentration applied: 100 mg |
| | Rabbit - Eyes - Mild irritant | Amount/concentration applied: 870 ug |
| methanol | Rabbit - Eyes - Moderate irritant | Duration of treatment/ exposure: 24 hours Amount/concentration applied: 100 mg |
| | Rabbit - Eyes - Moderate irritant | Amount/concentration applied: 40 mg |
| | Rabbit - Eyes - Severe irritant | Amount/concentration applied: 0.1 MI |
| 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

Conclusion/Summary

methanol

May cause eye irritation.

Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

Ingredient name

Conclusion/Summary

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

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

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

Ingredient name

Conclusion/Summary

methanol

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

Specific target organ toxicity (single exposure)

| Product/ingredient name | Result |
|-------------------------|--------|
|-------------------------|--------|

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SECTION 11: Toxicological information

| | |
|----------|------------------------------------|
| toluene | STOT SE 3, H336 (Narcotic effects) |
| methanol | STOT SE 1, H370 |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Result |
|-------------------------|---|
| toluene | STOT RE 2, H373 (nervous system) (inhalation) |

Aspiration hazard

| Product/ingredient name | Result |
|--|--------------------------------|
| GC/MS Forensic Toxicology Checkout Mixture | ASPIRATION HAZARD - Category 1 |
| toluene | ASPIRATION HAZARD - Category 1 |

Information on 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 foetal weight
 increase in foetal deaths
 skeletal malformations

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

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

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

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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 the unborn child.
- 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 | | |
|---|---|---|---|
| <input checked="" type="checkbox"/> toluene | Acute - EC50 - Fresh water Daphnia - Water flea - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Wearling) 6000 µg/l [48 hours] Intoxication | - | - |
| | Acute - LC50 - Fresh water Fish - Coho salmon, silver salmon - <i>Oncorhynchus kisutch</i> - Fry Weight: 1 g 5500 µg/l [96 hours] Mortality | - | - |
| | Chronic - NOEC EPA 600/4-91-003 Daphnia - <i>Ceriodaphnia dubia</i> 0.74 mg/l [7 days] | - | - |
| methanol | Acute - EC50 - Fresh water Algae - Green algae - <i>Raphidocelis subcapitata</i> 12.5 mg/l [72 hours] Growth | - | - |
| | Acute - LC50 - Marine water Crustaceans - Common shrimp, sand shrimp - <i>Crangon crangon</i> - Adult 2500 mg/l [48 hours] Mortality | - | - |

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| | | | |
|--------------|--|---|---|
| | Acute - LC50 - Fresh water | - | - |
| | Fish - Zebra danio - <i>Danio rerio</i> - Egg | | |
| | Age: 12 | | |
| | 290 mg/l [96 hours] | | |
| | Mortality | | |
| | Chronic - NOEC - Marine water | - | - |
| | Algae - Green algae - <i>Ulva pertusa</i> | | |
| | 9.96 mg/l [96 hours] | | |
| | Reproduction | | |
| | Acute - EC50 - Marine water | - | - |
| | Algae - Green algae - <i>Ulva pertusa</i> | | |
| | Size: 9.4 mm | | |
| | 2736 mg/l [96 hours] | | |
| | Reproduction | | |
| acetonitrile | Acute - LC50 - Fresh water | - | - |
| | Daphnia - Water flea - <i>Daphnia magna</i> | | |
| | Age: <24 hours | | |
| | 3600 mg/l [48 hours] | | |
| | Mortality | | |
| | Acute - IC50 - Fresh water | - | - |
| | Aquatic plants - Duckweed - <i>Lemna minor</i> | | |
| | 3685 mg/l [96 hours] | | |
| | Population | | |
| | Chronic - NOEC - Fresh water | - | - |
| | Daphnia - Water flea - <i>Daphnia magna</i> | | |
| | Age: <24 hours | | |
| | 160 mg/l [21 days] | | |
| | Reproduction | | |
| | Chronic - NOEC - Fresh water | - | - |
| | Aquatic plants - Duckweed - <i>Lemna minor</i> | | |
| | 1000 mg/l [96 hours] | | |
| | Population | | |
| | Acute - LC50 - Fresh water | - | - |
| | Fish - Fathead minnow - <i>Pimephales promelas</i> | | |
| | Weight: 1.5 g | | |
| | 1000 mg/l [96 hours] | | |
| | Mortality | | |

Conclusion/Summary [Product] : Not available.

SECTION 12: Ecological information

12.2 Persistence and degradability

Product/ingredient name

Result

acetonitrile OECD [Ready Biodegradability - CO₂ 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 |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| toluene | 2.73 | 90 | Low |
| methanol | -0.77 | <10 | Low |
| acetonitrile | -0.34 | 3 | Low |

12.4 Mobility in soil

Soil/water partition coefficient

| Product/ingredient name | logK _{oc} | K _{oc} |
|-------------------------|--------------------|-----------------|
| toluene | 2.1 | 117.115 |
| methanol | 0.44 | 2.75443 |
| acetonitrile | 0.42 | 2.62657 |

Results of PMT and vPvM assessment

| Product/ingredient name | PMT | P | M | T | vPvM | vP | vM |
|-------------------------|-----|-----|-----|-----|------|-----|-----|
| toluene | N/A | N/A | Yes | Yes | No | N/A | No |
| methanol | No | No | Yes | No | No | No | Yes |
| acetonitrile | No | N/A | Yes | No | N/A | N/A | Yes |

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|-------------------------|-----|-----|----|-----|------|-----|----|
| toluene | No | N/A | No | Yes | No | N/A | No |
| methanol | No | No | No | No | No | No | No |
| acetonitrile | No | N/A | No | No | No | N/A | No |

Regulation (EC) No. 1272/2008 [CLP]

| Product/ingredient name | PBT | P | B | T | vPvB | vP | vB |
|-------------------------|-----|-----|----|-----|------|-----|----|
| toluene | No | N/A | No | Yes | No | N/A | No |
| methanol | No | No | No | No | No | No | No |
| acetonitrile | No | N/A | No | No | No | N/A | No |

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Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : 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. The generation of waste should be avoided or minimised wherever possible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.




Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

| | ADR/RID | IMDG | IATA |
|--|--|--|--|
| 14.1 UN number | UN1993 | UN1993 | UN1993 |
| 14.2 UN proper shipping name | FLAMMABLE LIQUID, N.O.S. (Toluene, Methanol, Acetonitrile) | FLAMMABLE LIQUID, N.O.S. (Toluene, Methanol, Acetonitrile) | Flammable liquid, n.o.s. (Toluene, Methanol, Acetonitrile) |
| 14.3 Transport hazard class(es) | 3  | 3  | 3  |
| 14.4 Packing group | II | II | II |
| 14.5 Environmental hazards | No. | No. | No. |

Additional information

Remarks: De minimis quantities

SECTION 14: Transport information

- ADR/RID** : **Hazard identification number** 33
 Limited quantity 1 L
 Special provisions 601, 274, 640D
 Tunnel code (D/E)
- IMDG** : **Emergency schedules** F-E, _S-E_
 Special provisions 274
- IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353.
 Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.
 Special provisions A3
- 14.6 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.

14.7 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

UK (GB)/REACH

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

None of the components are listed / The components are not impacted by a restriction

Labelling : Not applicable.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

5c

EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

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SECTION 15: Regulatory information

Industrial emissions (integrated pollution prevention and control) - Water : Listed

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

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

United States : At least one component is inactive.


SECTION 16: Other information

 Indicates information that has changed from previously issued version.

Abbreviations and acronyms :

- ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
- ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE = Acute Toxicity Estimate
- GB CLP = UK CLP (EC No 1272/2008) on the Classification, Labelling and Packaging of Substances and Mixtures as amended by (EU Exit) Regulations 2019 No. 720 and amendments
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = GB CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- N/A = Not available
- PBT = Persistent, Bioaccumulative and Toxic
- PNEC = Predicted No Effect Concentration
- RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
- RRN = REACH Registration Number
- SGG = Segregation Group
- vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification

| Classification | Justification |
|--|--|
|  Am. Liq. 2, H225 Acute Tox. 3, H301 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 2, H371 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412 | Expert judgment Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method |

SECTION 16: Other information

Full text of abbreviated H statements

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H311 | Toxic in contact with skin. |
| H312 | Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H336 | May cause drowsiness or dizziness. |
| H361d | Suspected of damaging the unborn child. |
| H370 | Causes damage to organs. |
| H371 | May cause damage to organs. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H412 | Harmful to aquatic life with long lasting effects. |

Full text of classifications

| | |
|-------------------|---|
| Acute Tox. 3 | ACUTE TOXICITY - Category 3 |
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Asp. Tox. 1 | ASPIRATION HAZARD - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Liq. 2 | FLAMMABLE LIQUIDS - Category 2 |
| Repr. 2 | REPRODUCTIVE TOXICITY - Category 2 |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| STOT SE 1 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1 |
| STOT SE 2 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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