

SAFETY DATA SHEET

APCI-TOF Tune Mix, Part Number G1969-85010

Section 1. Identification

1.1 Product identifier

Product name : APCI-TOF Tune Mix, Part Number G1969-85010
Part no. : G1969-85010
Validation date : 6/21/2018

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use
 100 ml Container

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

| | |
|--|--|
| <input checked="" type="checkbox"/> H225 | FLAMMABLE LIQUIDS - Category 2 |
| H302 | ACUTE TOXICITY (oral) - Category 4 |
| H311 | ACUTE TOXICITY (dermal) - Category 3 |
| H331 | ACUTE TOXICITY (inhalation) - Category 3 |
| H315 | SKIN IRRITATION - Category 2 |
| H319 | EYE IRRITATION - Category 2A |
| H351 | CARCINOGENICITY - Category 2 |
| H360 | TOXIC TO REPRODUCTION (Unborn child) - Category 1B |
| H370 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), optic nerve) - Category 1 |
| H372 | SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys, liver) - Category 1 |

2.2 GHS label elements

Hazard pictograms



Signal word

: Danger

Section 2. Hazards identification

- Hazard statements** : H225 - Highly flammable liquid and vapor.
 H311 + H331 - Toxic in contact with skin or if inhaled.
 H302 - Harmful if swallowed.
 H319 - Causes serious eye irritation.
 H315 - Causes skin irritation.
 H360 - May damage the unborn child.
 H351 - Suspected of causing cancer.
 H370 - Causes damage to organs. (central nervous system (CNS), optic nerve)
 H372 - Causes damage to organs through prolonged or repeated exposure. (blood system, central nervous system (CNS), kidneys, liver)
- Precautionary statements**
- Prevention** : P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 P233 - Keep container tightly closed.
 P271 - Use only outdoors or in a well-ventilated area.
 P260 - Do not breathe vapor.
 P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash hands thoroughly after handling.
- Response** : P314 - Get medical attention if you feel unwell.
 P307 + P311 - IF exposed: Call a POISON CENTER or physician.
 P304 + P340 + P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician.
 P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P302 + P361+P364 + P352 + P312 + P362+P364 - IF ON SKIN: Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.
 P332 + P313 - If skin irritation occurs: Get medical attention.
 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 attention.
- Storage** : P405 - Store locked up.
 P403 - Store in a well-ventilated place.
 P235 - 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 | % | CAS number |
|------------------|-----------|------------|
| Acetonitrile | ≥75 - ≤90 | 75-05-8 |
| Methanol | ≤14 | 67-56-1 |
| Trichloromethane | ≤1 | 67-66-3 |

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 as hazardous to health or the environment 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. 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 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

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

Over-exposure signs/symptoms

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:
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:
reduced fetal weight
increase in fetal deaths
skeletal malformations

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, CO₂, 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.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
halogenated compounds
carbonyl halides
cyanides
Formaldehyde.

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.
- Remark** : Keep away from heat, sparks and flame.

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). 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 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** :

Section 7. Handling and storage

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 applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|------------------|---|
| Acetonitrile | <p>ACGIH TLV (United States, 3/2017). Absorbed through skin. TWA: 20 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 40 ppm 8 hours. TWA: 70 mg/m³ 8 hours. STEL: 60 ppm 15 minutes. STEL: 105 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 20 ppm 10 hours. TWA: 34 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 6/2016). TWA: 40 ppm 8 hours. TWA: 70 mg/m³ 8 hours.</p> |
| Methanol | <p>ACGIH TLV (United States, 3/2017). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 262 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 328 mg/m³ 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 200 ppm 8 hours. TWA: 260 mg/m³ 8 hours. STEL: 250 ppm 15 minutes. STEL: 325 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). Absorbed through skin. TWA: 200 ppm 10 hours. TWA: 260 mg/m³ 10 hours. STEL: 250 ppm 15 minutes. STEL: 325 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 6/2016). TWA: 200 ppm 8 hours. TWA: 260 mg/m³ 8 hours.</p> |
| Trichloromethane | <p>ACGIH TLV (United States, 3/2017).</p> |

Section 8. Exposure controls/personal protection

TWA: 10 ppm 8 hours.
 TWA: 49 mg/m³ 8 hours.
OSHA PEL 1989 (United States, 3/1989).
 TWA: 2 ppm 8 hours.
 TWA: 9.78 mg/m³ 8 hours.
NIOSH REL (United States, 10/2016).
 STEL: 2 ppm 60 minutes.
 STEL: 9.78 mg/m³ 60 minutes.
OSHA PEL (United States, 6/2016).
 CEIL: 50 ppm
 CEIL: 240 mg/m³

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.

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

- : When used as intended with Agilent instruments, use of the product is not expected to result in direct contact with the chemical. However, in case of accidental contact with splash wear good quality:
 Glove material: butyl rubber
 Glove thickness: ≥ 0.2 mm
 Breakthrough time: >30 minutes

While not recommended, if typical disposable laboratory nitrile gloves are used, they need to be removed immediately if contacted with the mixture. When contacted with acetonitrile, typical laboratory nitrile gloves have very short breakthrough times, considerably less than 10 minutes.

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.

Section 8. Exposure controls/personal protection

Respiratory protection : When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures, and, therefore, respiratory protection isn't needed. In emergency situations, when a respirator is needed, use a full-face supplied air respirator and components tested and approved under appropriate government standards such as CEN (EU) or NIOSH (US).

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

| | |
|---|--|
| Physical state | : Liquid. |
| Color | : Not available. |
| Odor | : Not available. |
| Odor threshold | : Not available. |
| pH | : Not available. |
| Melting point | : Not available. |
| Boiling point | : Not available. |
| Flash point | : Closed cup: 2°C (35.6°F) |
| Evaporation rate | : Not available. |
| Flammability (solid, gas) | : Not applicable. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapor pressure | : Not available. |
| Vapor density | : Not available. |
| Relative density | : Not available. |
| Solubility | : Easily soluble in the following materials: cold water and hot water. |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Viscosity | : 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 pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| 10.5 Incompatible materials | : Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: metals and acids. |

Section 10. Stability and reactivity

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 | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|-------------|----------|
| Acetonitrile | LC50 Inhalation Vapor | Rat | 17100 ppm | 4 hours |
| | LD50 Oral | Rat | 2460 mg/kg | - |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Trichloromethane | LD50 Dermal | Rabbit | >20 g/kg | - |
| | LD50 Oral | Rat | 300 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|--------------------------|-------------|
| Acetonitrile | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Trichloromethane | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |

Conclusion/Summary

Skin : Repeated exposure may cause skin dryness or cracking.

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|--|
| Trichloromethane | - | 2B | Reasonably anticipated to be a human carcinogen. |

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

| Name | Category | Route of exposure | Target organs |
|------------------|------------|-------------------|---|
| Methanol | Category 1 | Not determined | central nervous system (CNS) and optic nerve |
| | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Trichloromethane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|------------------|------------|-------------------|---|
| Acetonitrile | Category 2 | Not determined | blood system, central nervous system (CNS), kidneys and liver |
| Trichloromethane | Category 1 | Not determined | kidneys and liver |

Aspiration hazard

Not available.

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

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Toxic if inhaled.
Skin contact : Toxic in contact with skin. Causes skin irritation.
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 : Adverse symptoms may include the following:
 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:
 reduced fetal weight
 increase in fetal deaths
 skeletal malformations

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

Section 11. Toxicological information

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

General : Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|--|-------------|
| <input checked="" type="checkbox"/> Oral | 320.5 mg/kg |
| Dermal | 806.9 mg/kg |
| Inhalation (vapors) | 7.981 mg/l |

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.

Section 12. Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|--|---------------------------------------|--|----------|
| <input checked="" type="checkbox"/> Acetonitrile | Acute IC50 3685000 µg/l Fresh water | Aquatic plants - Lemna minor | 96 hours |
| | Acute LC50 3600000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 1000000 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| Methanol | Chronic NOEC 1000000 µg/l Fresh water | Aquatic plants - Lemna minor | 96 hours |
| | Chronic NOEC 160000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Acute LC50 2500000 µg/l Marine water | Crustaceans - Crangon crangon - Adult | 48 hours |
| Trichloromethane | Acute LC50 3289 mg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 290 mg/l Fresh water | Fish - Danio rerio - Egg | 96 hours |
| | Chronic NOEC 9.96 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute EC50 13.3 mg/l Fresh water | Algae - Chlamydomonas reinhardtii - Exponential growth phase | 72 hours |
| | Acute EC50 2.803 mg/l Fresh water | Crustaceans - Cypris subglobosa | 48 hours |
| | Acute LC50 29000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 13.3 ppm Fresh water | Fish - Lepomis macrochirus | 96 hours |
| | Chronic EC10 3.61 mg/l Fresh water | Algae - Chlamydomonas reinhardtii - Exponential growth | 72 hours |

Section 12. Ecological information

| | | | |
|--|-----------------------------------|----------------------------------|---------|
| | Chronic NOEC 1.8 mg/l Fresh water | phase Daphnia - Daphnia magna | 21 days |
|--|-----------------------------------|----------------------------------|---------|

12.2 Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| Acetonitrile | - | - | Readily |
| Trichloromethane | - | - | Not readily |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Acetonitrile | -0.34 | 3 | low |
| Methanol | -0.77 | <10 | low |
| Trichloromethane | 1.97 | 690 | high |

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : 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.

United States - RCRA Toxic hazardous waste "U" List

| Ingredient | CAS # | Status | Reference number |
|----------------------------------|---------|--------|------------------|
| Chloroform; Methane, trichloro- | 67-66-3 | Listed | U044 |
| Methanol (I); Methyl alcohol (I) | 67-56-1 | Listed | U154 |
| 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.

Section 13. Disposal considerations

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 Classification | TDG Classification | Mexico Classification | IMDG | IATA |
|----------------------------|---|--|---|--|--|
| UN number | UN1992 | UN1992 | UN1992 | UN1992 | UN1992 |
| UN proper shipping name | Flammable liquids, toxic, n.o.s. (Acetonitrile, Methanol) | FLAMMABLE LIQUID, TOXIC, N.O.S. (Acetonitrile, Methanol) | LIQUIDO INFLAMABLE, TOXICO, N.E.P. (Acetonitrile, Methanol) | FLAMMABLE LIQUID, TOXIC, N.O.S. (Acetonitrile, Methanol) | Flammable liquid, toxic, n.o.s. (Acetonitrile, Methanol) |
| Transport hazard class(es) | 3 (6.1) | 3 (6.1) | 3 (6.1) | 3 (6.1) | 3 (6.1) |
| Packing group | III | III | III | III | III |
| Environmental hazards | No. | No. | No. | No. | No. |

Additional information

DOT Classification

- : **Reportable quantity** 1000 lbs / 454 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
- : **Limited quantity** Yes.
- : **Packaging instruction** Exceptions: 150. Non-bulk: 203. Bulk: 242.
- : **Quantity limitation** Passenger aircraft/rail: 60 L. Cargo aircraft: 220 L.
- : **Special provisions** B1, IB3, T7, TP1, TP28

TDG Classification

- : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.26-2.36 (Class 6).
- : **Explosive Limit and Limited Quantity Index** 5
- : **Passenger Carrying Road or Rail Index** 60
- : **Special provisions** 16

Mexico Classification

- : **Special provisions** 223, 274

IMDG

- : **Emergency schedules** F-E, S-D
- : **Special provisions** 223, 274

IATA

- : **Quantity limitation** Passenger and Cargo Aircraft: 60 L. Packaging instructions: 355. Cargo Aircraft Only: 220 L. Packaging instructions: 366. Limited Quantities - Passenger Aircraft: 2 L. Packaging instructions: Y343.
- : **Special provisions** A3

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 Annex II of MARPOL and the IBC Code

- : 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 8(a) PAIR: Acetonitrile
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 Clean Water Act (CWA) 307: Trichloromethane; Acetonitrile
 Clean Water Act (CWA) 311: Trichloromethane
- Clean Air Act (CAA) 112 regulated toxic substances: Trichloromethane
- 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

| Name | % | EHS | SARA 302 TPQ | | SARA 304 RQ | |
|------------------|----|------|--------------|-----------|-------------|-----------|
| | | | (lbs) | (gallons) | (lbs) | (gallons) |
| Trichloromethane | ≤1 | Yes. | 10000 | 803.8 | 10 | 0.8 |

SARA 304 RQ : 1000 lbs / 454 kg

SARA 311/312

- Classification** : **FLAMMABLE LIQUIDS** - Category 2
 ACUTE TOXICITY (oral) - Category 4
 ACUTE TOXICITY (dermal) - Category 3
 ACUTE TOXICITY (inhalation) - Category 3
 SKIN IRRITATION - Category 2
 EYE IRRITATION - Category 2A
 CARCINOGENICITY - Category 2
 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), optic nerve) - Category 1
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys, liver) - Category 1

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 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys, liver) - Category 2 |
| Methanol | ≤14 | FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A |

Section 15. Regulatory information

| | | |
|------------------|----|--|
| Trichloromethane | ≤1 | TOXIC TO REPRODUCTION (Unborn child) - Category 1B SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), optic nerve) - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 3 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 TOXIC TO REPRODUCTION (Unborn child) - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, liver) - Category 1 |
|------------------|----|--|

SARA 313

| | Product name | CAS number | % |
|---------------------------------|------------------|------------|-----------|
| Form R - Reporting requirements | Acetonitrile | 75-05-8 | ≥75 - ≤90 |
| | Methanol | 67-56-1 | ≤14 |
| | Trichloromethane | 67-66-3 | ≤1 |
| Supplier notification | Acetonitrile | 75-05-8 | ≥75 - ≤90 |
| | Methanol | 67-56-1 | ≤14 |
| | Trichloromethane | 67-66-3 | ≤1 |

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: CHLOROFORM; TRICHLOROMETHANE; METHANOL; METHYL ALCOHOL; ACETONITRILE

New York

: The following components are listed: Chloroform; Methane, trichloro-; Methanol; Acetonitrile; Ethanenitrile

New Jersey

: The following components are listed: CHLOROFORM; METHANE, TRICHLORO-; METHYL ALCOHOL; METHANOL; ACETONITRILE; CYANOMETHANE

Pennsylvania

: The following components are listed: METHANE, TRICHLORO-; METHANOL; ACETONITRILE

California Prop. 65

⚠️ WARNING: This product can expose you to Chloroform, which is known to the State of California to cause cancer and birth defects or other reproductive harm. 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.

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Section 15. Regulatory information

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. |
| Europe | : Not determined. |
| Japan | : Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : Not determined. |
| Philippines | : Not determined. |
| Republic of Korea | : Not determined. |
| Taiwan | : Not determined. |
| Thailand | : <input checked="" type="checkbox"/> Not determined. |
| Turkey | : Not determined. |
| United States | : Not determined. |
| Viet Nam | : <input checked="" type="checkbox"/> Not determined. |

Section 16. Other information

History

| | |
|-------------------------------|--------------|
| Date of issue | : 06/21/2018 |
| Date of previous issue | : 03/27/2017 |
| Version | : 9 |

Procedure used to derive the classification

| Classification | Justification |
|--|-----------------------|
| <input checked="" type="checkbox"/> FLAMMABLE LIQUIDS - Category 2 | On basis of test data |
| ACUTE TOXICITY (oral) - Category 4 | Calculation method |
| ACUTE TOXICITY (dermal) - Category 3 | Calculation method |
| ACUTE TOXICITY (inhalation) - Category 3 | Calculation method |
| SKIN IRRITATION - Category 2 | Calculation method |
| EYE IRRITATION - Category 2A | Calculation method |
| CARCINOGENICITY - Category 2 | Calculation method |
| TOXIC TO REPRODUCTION (Unborn child) - Category 1B | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), optic nerve) - Category 1 | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys, liver) - Category 1 | Calculation method |

Indicates information that has changed from previously issued version.

Notice to reader

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