SAFETY DATA SHEET

Agilent Technologies

APCI-L Low Concentration Tuning Mix

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

1.1 Product identifier

Product name : APCI-L Low Concentration Tuning Mix

Part no. : G1969-85010

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

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

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]

H225	FLAMMABLE LIQUIDS	Category 2
H302	ACUTE TOXICITY (oral)	Category 4
H311	ACUTE TOXICITY (dermal)	Category 3
H331	ACUTE TOXICITY (inhalation)	Category 3
H319	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2
H351	CARCINOGENICITY	Category 2
H370	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	Category 1
H373	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	Category 2

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

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 :

Signal word : Danger

SECTION 2: Hazards identification

Hazard statements : H225 - Highly flammable liquid and vapour.
H302 - Harmful if swallowed.
H311 + H331 - Toxic in contact with skin or if inhaled.
H319 - Causes serious eye irritation.
H351 - Suspected of causing cancer.
H370 - Causes damage to organs.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

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.
P260 - Do not breathe vapour.

Response : P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : acetonitrile; methanol and chloroform

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : For use in industrial installations only.

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
acetonitrile	EC: 200-835-2 CAS: 75-05-8 Index: 608-001-00-3	≥75 - ≤90	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1] [2]
methanol	EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X	≤14	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370	[1] [2]
chloroform	EC: 200-663-8	≤1	Acute Tox. 4, H302	[1] [2]

SECTION 3: Composition/information on ingredients

	CAS: 67-66-3 Index: 602-006-00-4		Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Repr. 2, H361d STOT RE 1, H372	

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

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.

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 : 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. 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.

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.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

Inhalation : No specific data.

Skin contact : No specific data.

SECTION 4: First aid measures

Ingestion : No specific data.

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, CO_2, 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.

Hazardous combustion 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

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. 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.

Additional information : 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour. Put on appropriate personal protective equipment.

For emergency responders : If 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).

6.3 Methods and material 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.

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 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.

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

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 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
H2	50 tonnes	200 tonnes
H3	50 tonnes	200 tonnes
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
acetonitrile	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 102 mg/m³. STEL 15 minutes: 60 ppm. TWA 8 hours: 40 ppm. TWA 8 hours: 68 mg/m³.
methanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 333 mg/m³. STEL 15 minutes: 250 ppm. TWA 8 hours: 266 mg/m³. TWA 8 hours: 200 ppm.
chloroform	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. TWA 8 hours: 2 ppm. TWA 8 hours: 9.9 mg/m³.

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	
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/m³
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/m³
	DNEL - General population - Long term - Inhalation	26 mg/m³
	DNEL - General population - Short term - Inhalation	26 mg/m³
	DNEL - General population - Long term - Inhalation	26 mg/m³
	DNEL - Workers - Short term - Inhalation	130 mg/m³

SECTION 8: Exposure controls/personal protection

	DNEL - Workers - Long term - Inhalation	130 mg/m³
	DNEL - Workers - Short term - Inhalation	130 mg/m³
	DNEL - Workers - Long term - Inhalation	130 mg/m³
chloroform	DNEL - General population - Long term - Oral	0.33 mg/kg bw/day
	DNEL - General population - Long term - Inhalation	0.625 mg/m³
	DNEL - General population - Long term - Inhalation	0.625 mg/m³
	DNEL - Workers - Long term - Inhalation	2.5 mg/m³
	DNEL - Workers - Long term - Inhalation	2.5 mg/m³
	DNEL - Workers - Long term - Dermal	2.86 mg/kg bw/day
	DNEL - Workers - Short term - Inhalation	5 mg/m³
	DNEL - Workers - Short term - Inhalation	5 mg/m³

PNECs

Not available.

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, 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.

SECTION 8: Exposure controls/personal protection

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 : Not available.

Odour : Not available.

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.

Flash point : Closed cup: 2°C

Auto-ignition temperature : 524°C [Based on solvent.]

Decomposition temperature : Not available.

pH : Not available.

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

Solubility :

Media	Result
water	Soluble

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

Vapour pressure : 9.5 kPa (70.88853 mm Hg) [Based on solvent.]

Relative density : Not available.

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 : Yes.

Evaporation rate : Not available.

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.

10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials
Reactive or incompatible with the following materials: metals and acids.

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
acetonitrile	Rat - Oral - LD50	2460 mg/kg
	Rat - Inhalation - LC50 Vapour	17100 ppm [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]
	Rat - Inhalation - LC50 Vapour	189.95 mg/l [1 hours]
chloroform	Rat - Oral - LD50	695 mg/kg
	Rabbit - Dermal - LD50	>20 g/kg
	Rat - Inhalation - LC50 Vapour	47702 mg/m³ [4 hours]

Conclusion/Summary [Product] : Not available.

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)
APCI-L Low Concentration Tuning Mix	321.1	806.9	N/A	8.0	N/A
acetonitrile	500	1100	N/A	11	N/A
methanol	100	300	N/A	3	N/A
chloroform	695	N/A	N/A	7.348	N/A

Skin corrosion/irritation

Product/ingredient name	Result	
methanol	Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 20 mg

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

Ingredient name	Conclusion/Summary
methanol	Repeated exposure may cause skin dryness or cracking.

SECTION 11: Toxicological information

Serious eye damage/eye irritation

Product/ingredient name	Result	
acetonitrile	Rabbit - Eyes - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 100 uL
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 Ml
chloroform	Rabbit - Eyes - Moderate irritant	Duration of treatment/ exposure: 24 hours Amount/concentration applied: 20 mg
	Rabbit - Eyes - Severe irritant	Amount/concentration applied: 0.1 Ml

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.
chloroform	Detected in maternal milk in humans.

SECTION 11: Toxicological information

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
methanol	STOT SE 1, H370

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
chloroform	STOT RE 1, H372

Aspiration hazard

Not available.

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

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Toxic if inhaled. Causes damage to organs following a single exposure if inhaled.

Skin contact : Toxic in contact with skin. Causes damage to organs following a single exposure in contact with skin.

Ingestion : Harmful if swallowed. Causes damage to organs following a single exposure if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

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

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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.

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

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

SECTION 11: Toxicological information

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.
May cause headache, weakness, dizziness, shortness of breath, cyanosis, rapid heart beat, unconsciousness and possible death.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result		
acetonitrile	Acute - LC50 - Fresh water Daphnia - Water flea - *Daphnia magna* Age: <24 hours 3600 mg/l [48 hours] Mortality	-	-
	Acute - IC50 - Fresh water Aquatic plants - Duckweed - *Lemna minor* 3685 mg/l [96 hours] Population	-	-
	Chronic - NOEC - Fresh water Daphnia - Water flea - *Daphnia magna* Age: <24 hours 160 mg/l [21 days] Reproduction	-	-
	Chronic - NOEC - Fresh water Aquatic plants - Duckweed - *Lemna minor* 1000 mg/l [96 hours] Population	-	-
	Acute - LC50 - Fresh water Fish - Fathead minnow - *Pimephales promelas* Size: 5.08 to 6.35 cm; Weight: 1.5 g 1000 mg/l [96 hours] Mortality	-	-
methanol	Acute - LC50 - Marine water Crustaceans - Common shrimp, sand shrimp - *Crangon crangon* - Adult 2500 mg/l [48 hours] Mortality	-	-
	Acute - LC50 - Fresh water Fish - Zebra danio - *Danio rerio* - Egg Age: 12 290 mg/l [96 hours]	-	-

SECTION 12: Ecological information

	Mortality		
	Chronic - NOEC - Marine water Algae - Green algae - *Ulva pertusa* 9.96 mg/l [96 hours] Reproduction	-	-
	Acute - EC50 - Marine water Algae - Green algae - *Ulva pertusa* Size: 9.4 mm 2736 mg/l [96 hours] Reproduction	-	-
chloroform	Acute - LC50 - Fresh water Fish - Bluegill - *Lepomis macrochirus* Size: 17.1 cm; Weight: 126.4 g 13.3 mg/l [96 hours] Mortality	-	-
	Acute - EC50 - Fresh water Crustaceans - Ostracod - *Cypris subglobosa* 2.803 mg/l [48 hours] Intoxication	-	-
	Chronic - NOEC - Fresh water Daphnia - Water flea - *Daphnia magna* Age: <24 hours 1.8 mg/l [21 days] Mortality	-	-
	Chronic - EC10 Algae - Green algae - *Chlamydomonas reinhardtii* - Exponential growth phase Age: 7 days 3.61 mg/l [72 hours] Population	-	-
	Acute - EC50 Algae - Green algae - *Chlamydomonas reinhardtii* - Exponential growth phase Age: 7 days 13.3 mg/l [72 hours] Population	-	-

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

SECTION 12: Ecological information

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
acetonitrile	-	-	Readily
methanol	-	-	Readily
chloroform	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
acetonitrile	-0.34	3	Low
methanol	-0.77	<10	Low
chloroform	1.97	690	High

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logKoc	Koc
acetonitrile	0.42	2.62657
methanol	0.44	2.75443
chloroform	1.6	39.8833

Results of PMT and vPvM assessment

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

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

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

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

SECTION 12: Ecological information

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. (Acetonitrile, Methanol)	FLAMMABLE LIQUID, N.O.S. (Acetonitrile, Methanol)	Flammable liquid, n.o.s. (Acetonitrile, Methanol)
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

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

SECTION 14: Transport information

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)

Part	Ingredient name	Status
Part 1	chloroform	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 : For use in industrial installations only.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
H2 H3 P5c

EU regulations

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

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

International regulations

SECTION 15: Regulatory information

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 : Not determined.

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

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
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H302	Calculation method
Acute Tox. 3, H311	Calculation method
Acute Tox. 3, H331	Calculation method
Eye Irrit. 2, H319	Calculation method
Carc. 2, H351	Calculation method
STOT SE 1, H370	Calculation method
STOT RE 2, H373	Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
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.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.

Full text of classifications

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Carc. 2	CARCINOGENICITY - Category 2
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 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 1	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1

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