

# SAFETY DATA SHEET



## APCI/APPI Tuning mix

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

#### 1.1 Product identifier

**Product name** : APCI/APPI Tuning mix  
**Part No.** : G2432A, G2432-60001

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

| Identified uses                 |
|---------------------------------|
| Analytical chemistry.<br>100 ml |

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

Agilent Technologies Manufacturing GmbH & Co. KG  
Hewlett-Packard-Str. 8  
76337 Waldbronn  
Germany  
0800 603 1000

**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)-870-8200418

### 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

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

**Date of issue/Date of revision** : 15/02/2017

## SECTION 2: Hazards identification

- Hazard statements** : H225 - Highly flammable liquid and vapour.  
H311 + H331 - Toxic in contact with skin or if inhaled.  
H302 - Harmful if swallowed.  
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. 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.  
P260 - Do not breathe vapour.
- Response** : P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- Storage** : P235 - Keep cool.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** :  acetonitrile  
- methanol  
- trichloromethane
- 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**
- Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

- Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures : Mixture

| Product/ingredient name                          | Identifiers  | %         | Regulation (EC) No. 1272/2008 [CLP]  | Type    |
|--|--|-----------|--|---------|
| <input checked="" type="checkbox"/> Acetonitrile | EC: 200-835-2<br>CAS: 75-05-8<br>Index: 608-001-00-3 | ≥50 - ≤75 | Flam. Liq. 2, H225<br>Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Eye Irrit. 2, H319 | [1] [2] |
| Methanol   | EC: 200-659-6<br>CAS: 67-56-1<br>Index: 603-001-00-X | ≥10 - ≤16 | Flam. Liq. 2, H225<br>Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 3, H331<br>STOT SE 1, H370    | [1] [2] |
| Acetone  | EC: 200-662-2<br>CAS: 67-64-1                        | ≤5        | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319   | [1] [2] |

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**SECTION 3: Composition/information on ingredients**

|                  |   |      |  |         |
|------------------|---|------|--|---------|
| Trichloromethane | Index: 606-001-00-8<br>EC: 200-663-8<br>CAS: 67-66-3<br>Index: 602-006-00-4 | ≤1.9 | STOT SE 3, H336<br>EUH066<br>Acute Tox. 4, H302<br>Acute Tox. 3, H331<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Carc. 2, H351<br>Repr. 2, H361d (Unborn child)<br>STOT RE 1, H372<br><br><b>See Section 16 for the full text of the H statements declared above.</b> | [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

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

**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. 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.
- 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**Potential acute health effects

**Date of issue/Date of revision** : 15/02/2017

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**SECTION 4: First aid measures**

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

**Over-exposure signs/symptoms**

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

**4.3 Indication of 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<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

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

- Hazards from the substance or mixture** : Highly flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.
- 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 precautions 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 European standard 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** : 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

- 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). Avoid exposure - obtain special instructions before use. 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 vapour 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

- 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

#### Seveso Directive - Reporting thresholds (in tonnes)

##### Named substances

APCI/APPI Tuning mix

**SECTION 7: Handling and storage**

| Name     | Notification and MAPP threshold | Safety report threshold |
|----------|---------------------------------|-------------------------|
| Methanol | 500                             | 5000                    |

Danger criteria

| Category  | Notification and MAPP threshold | Safety report threshold |
|---|---------------------------------|-------------------------|
| H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation route of entry | 50                              | 200                     |
| H3: STOT Single exposure 1  | 50                              | 200                     |
| P5c: Flammable liquids 2 and 3 not falling under P5a or P5b                           | 5000                            | 50000                   |

**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

| Product/ingredient name | Exposure limit values  |
|-------------------------|--|
| Acetonitrile            | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b><br>STEL: 102 mg/m <sup>3</sup> 15 minutes.<br>STEL: 60 ppm 15 minutes.<br>TWA: 40 ppm 8 hours.<br>TWA: 68 mg/m <sup>3</sup> 8 hours.                           |
| Methanol                | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>STEL: 333 mg/m <sup>3</sup> 15 minutes.<br>STEL: 250 ppm 15 minutes.<br>TWA: 266 mg/m <sup>3</sup> 8 hours.<br>TWA: 200 ppm 8 hours. |
| Acetone                 | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b><br>STEL: 3620 mg/m <sup>3</sup> 15 minutes.<br>STEL: 1500 ppm 15 minutes.<br>TWA: 500 ppm 8 hours.<br>TWA: 1210 mg/m <sup>3</sup> 8 hours.                     |
| Trichloromethane        | <b>EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.</b><br>TWA: 2 ppm 8 hours.<br>TWA: 9.9 mg/m <sup>3</sup> 8 hours.   |

**Recommended monitoring procedures**

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard 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

No DNELs/DMELs available.

PNECs

**SECTION 8: Exposure controls/personal protection**

No PNECs 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 European Standard 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****9.1 Information on basic physical and chemical properties****Appearance**

|  |                            |
|--|----------------------------|
| <b>Physical state</b>                          | : Liquid.                  |
| <b>Colour</b>                                  | : Ether. [Light]           |
| <b>Odour</b>                                   | : Not available.           |
| <b>Odour threshold</b>                         | : 70 ppm                   |
| <b>pH</b>                                      | : Not available.           |
| <b>Melting point/freezing point</b>            | : -45°C                    |
| <b>Initial boiling point and boiling range</b> | : 81.6°C                   |
| <b>Flash point</b>                             | : Closed cup: 12.8°C       |
| <b>Evaporation rate</b>                        | : 5.79 (butyl acetate = 1) |

## SECTION 9: Physical and chemical properties

|   |  |
|---|--|
| <b>Flammability (solid, gas)</b>                    | : Not applicable.  |
| <b>Upper/lower flammability or explosive limits</b> | : Lower: 4.4%<br>Upper: 16%  |
| <b>Vapour pressure</b>                              | : 11.6 kPa [room temperature]  |
| <b>Vapour density</b>                               | : 1.42 [Air = 1]   |
| <b>Relative density</b>                             | : Not available.   |
| <b>Solubility(ies)</b>                              | : Easily soluble in the following materials: cold water and hot water. |
| <b>Partition coefficient: n-octanol/water</b>       | : -0.34  |
| <b>Auto-ignition temperature</b>                    | : 524°C  |
| <b>Decomposition temperature</b>                    | : Not available.   |
| <b>Viscosity</b>                                    | : Not available.   |
| <b>Explosive properties</b>                         | : Not available.   |
| <b>Oxidising properties</b>                         | : Not available.   |

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result                 | Species | Dose                    | Exposure |
|-------------------------|------------------------|---------|-------------------------|----------|
| Acetonitrile            | LC50 Inhalation Vapour | Rat     | 17100 ppm               | 4 hours  |
|                         | LD50 Oral              | Rat     | 2460 mg/kg              | -        |
| Methanol                | LC50 Inhalation Vapour | Rat     | 145000 ppm              | 1 hours  |
|                         | LC50 Inhalation Vapour | Rat     | 64000 ppm               | 4 hours  |
|                         | LD50 Dermal            | Rabbit  | 15800 mg/kg             | -        |
|                         | LD50 Oral              | Rat     | 5600 mg/kg              | -        |
| Acetone                 | LD50 Oral              | Rat     | 5800 mg/kg              | -        |
| Trichloromethane        | LC50 Inhalation Vapour | Rat     | 47702 mg/m <sup>3</sup> | 4 hours  |
|                         | LD50 Dermal            | Rabbit  | >20 g/kg                | -        |
|                         | LD50 Oral              | Rat     | 300 mg/kg               | -        |

#### Acute toxicity estimates



**SECTION 11: Toxicological information**

| Route                | ATE value   |
|----------------------|-------------|
| Oral                 | 331.6 mg/kg |
| Dermal               | 852.7 mg/kg |
| Inhalation (vapours) | 8.112 mg/l  |

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<br>Skin - Moderate irritant | Rabbit<br>Rabbit | -<br>- | 40 milligrams<br>24 hours 20 milligrams | -<br>-      |
| Acetone                 | Eyes - Mild irritant                                 | Rabbit           | -      | 10 microliters                          | -           |
|                         | Eyes - Moderate irritant                             | Rabbit           | -      | 24 hours 20 milligrams                  | -           |
|                         | Skin - Mild irritant                                 | Rabbit           | -      | 24 hours 500 milligrams                 | -           |
| Trichloromethane        | Skin - Mild irritant                                 | Rabbit           | -      | 395 milligrams                          | -           |
|                         | Eyes - Moderate irritant                             | Rabbit           | -      | 24 hours 20 milligrams                  | -           |
|                         | Skin - Mild irritant                                 | Rabbit           | -      | 24 hours 500 milligrams                 | -           |

**Skin** : Repeated exposure may cause skin dryness or cracking.

Sensitiser

**Conclusion/Summary** : Not available.

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category   | Route of exposure | Target organs    |
|-------------------------|------------|-------------------|------------------|
| Methanol                | Category 1 | Not determined    | Not determined   |
| Acetone                 | Category 3 | Not applicable.   | Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category   | Route of exposure | Target organs  |
|-------------------------|------------|-------------------|----------------|
| Trichloromethane        | Category 1 | Not determined    | Not determined |

Aspiration hazard

Not available.

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

Potential acute health effects

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

Symptoms related to the physical, chemical and toxicological characteristics

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

## SECTION 11: Toxicological information

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

### 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

**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.

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

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

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

**Other information** : Adverse symptoms may include the following: headache , redness , blurred or double vision . Eye contact can result in corneal damage or blindness.

## 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 |
| Methanol   | Acute LC50 1000000 µg/l Fresh water   | Fish - Pimephales promelas                                   | 96 hours |
|  | 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 EC50 24500000 µg/l Fresh water  | Daphnia - Daphnia magna - Larvae                             | 48 hours |
| Acetone  | Acute LC50 2500000 µg/l Marine water  | Crustaceans - Crangon crangon - Adult                        | 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 20.565 mg/l Marine water   | Algae - Ulva pertusa   | 96 hours |
|  | Acute LC50 6000000 µg/l Fresh water   | Crustaceans - Gammarus pulex                                 | 48 hours |
|  | Acute LC50 10000 µg/l Fresh water     | Daphnia - Daphnia magna                                      | 48 hours |
|  | Acute LC50 5600 ppm Fresh water       | Fish - Poecilia reticulata                                   | 96 hours |
|  | Chronic NOEC 4.95 mg/l Marine water   | Algae - Ulva pertusa   | 96 hours |
|  | Chronic NOEC 0.016 ml/L Fresh water   | Crustaceans - Daphniidae                                     | 21 days  |
| Chronic NOEC 0.1 ml/L Fresh water                | Daphnia - Daphnia magna - Neonate     | 21 days  |          |
| Trichloromethane                                 | 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 29 mg/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  | 72 hours |

APCI/APPI Tuning mix

**SECTION 12: Ecological information**

|  |                                   |   |         |
|--|-----------------------------------|---|---------|
|  | Chronic NOEC 1.8 mg/l Fresh water | reinhardtii - Exponential growth phase<br>Daphnia - Daphnia magna | 21 days |
|--|-----------------------------------|---|---------|

**12.2 Persistence and degradability**

| Product/ingredient name | Test  | Result                   | Dose | Inoculum |
|-------------------------|---|--------------------------|------|----------|
| Acetone                 | OECD 301B Ready Biodegradability - CO2 Evolution Test | 95 % - Readily - 28 days | -    | -        |

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

**12.3 Bioaccumulative potential**

| Product/ingredient name | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| APCI/APPI Tuning mix    | -0.34              | -   | low       |
| Acetonitrile            | -0.34              | 3   | low       |
| Methanol                | -0.77              | <10 | low       |
| Acetone                 | -0.23              | 3   | low       |
| Trichloromethane        | 1.97               | 690 | high      |

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

Product

**Methods of disposal** : The generation of waste should be avoided or minimised 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.

**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.




APCI/APPI Tuning mix

## SECTION 13: Disposal considerations

**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

**Additional information** : **Special provisions**  
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|  | ADR/RID  | IMDG  | IATA  |
|--|--|---|---|
| <b>14.1 UN number</b>                  | UN1993   | UN1993  | UN1993  |
| <b>14.2 UN proper shipping name</b>    | FLAMMABLE LIQUID, N. O.S. (Acetonitrile, Methanol)   | FLAMMABLE LIQUID, N. O.S. (Acetonitrile, Methanol)  | Flammable liquid, n.o.s. (Acetonitrile, Methanol)   |
| <b>14.3 Transport hazard class(es)</b> | 3<br>   | 3<br>          | 3<br>  |
| <b>14.4 Packing group</b>              | II   | II  | II  |
| <b>14.5 Environmental hazards</b>      | No.  | No.   | No.   |
| <b>Additional information</b>          | <p><b>Hazard identification number</b><br/>33</p> <p><b>Limited quantity</b><br/>1 L</p> <p><b>Special provisions</b><br/>601, 274, 640C</p> <p><b>Tunnel code</b><br/>(D/E)</p> | <p><b>Emergency schedules (EmS)</b><br/>F-E, _S-E_</p> <p><b>Special provisions</b><br/>274</p> | <p><b>Passenger and Cargo Aircraft</b> Quantity limitation: 5 L<br/>Packaging instructions: 353</p> <p><b>Cargo Aircraft Only</b> Quantity limitation: 60 L<br/>Packaging instructions: 364</p> <p><b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: 1 L<br/>Packaging instructions: Y341</p> <p><b>Special provisions</b><br/>A3</p> <p><b>Remarks</b><br/>A44 Requires Shipper's Declaration of Dangerous Goods</p> |

**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 Annex II of Marpol and the IBC Code** : Not available.

**Date of issue/Date of revision** : 15/02/2017

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## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (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.

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

#### Other EU regulations

**Europe inventory** : Not determined.

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

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

#### Ozone depleting substances (1005/2009/EU)

Not listed.

#### Prior Informed Consent (PIC) (649/2012/EU)

| Ingredient name                                | Annex            | Status |
|--|------------------|--------|
| <input checked="" type="checkbox"/> Chloroform | Annex I - Part 1 | Listed |

#### Seveso Directive

This product is controlled under the Seveso Directive.

##### Named substances

###### **Name**

Methanol

##### Danger criteria

###### **Category**

H2: Acute toxicity 2 any route of entry or Acute toxicity 3 Inhalation route of entry  
 H3: STOT Single exposure 1  
 P5c: Flammable liquids 2 and 3 not falling under P5a or P5b

#### 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

Not listed.

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

Not listed.

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

## SECTION 15: Regulatory information

Not listed.

### International lists

#### National inventory

|                          |  |
|--------------------------|--|
| <b>Australia</b>         | : Not determined.  |
| <b>Canada</b>            | : Not determined.  |
| <b>China</b>             | : Not determined.  |
| <b>Japan</b>             | : <b>Japan inventory (ENCS)</b> : Not determined.<br><b>Japan inventory (ISHL)</b> : Not determined. |
| <b>Malaysia</b>          | : Not determined.  |
| <b>New Zealand</b>       | : Not determined.  |
| <b>Philippines</b>       | : Not determined.  |
| <b>Republic of Korea</b> | : Not determined.  |
| <b>Taiwan</b>            | : Not determined.  |
| <b>Turkey</b>            | : Not determined.  |
| <b>United States</b>     | : 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** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

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

### Full text of abbreviated H statements

|  |  |
|--|--|
| ✔H225<br>H301<br>H302<br>H311<br>H312<br>H315<br>H319<br>H331<br>H332<br>H336<br>H351<br>H361d<br>H370<br>H372<br>H373 | Highly flammable liquid and vapour.<br>Toxic if swallowed.<br>Harmful if swallowed.<br>Toxic in contact with skin.<br>Harmful in contact with skin.<br>Causes skin irritation.<br>Causes serious eye irritation.<br>Toxic if inhaled.<br>Harmful if inhaled.<br>May cause drowsiness or dizziness.<br>Suspected of causing cancer.<br>Suspected of damaging the unborn child.<br>Causes damage to organs.<br>Causes damage to organs through prolonged or repeated exposure.<br>May cause damage to organs through prolonged or repeated exposure. |
|--|--|

**SECTION 16: Other information**

[Full text of classifications \[CLP/GHS\]](#)

|  |   |
|--|---|
| Acute Tox. 3, H301<br>Acute Tox. 3, H311<br>Acute Tox. 3, H331<br>Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Carc. 2, H351<br>EUH066<br>Eye Irrit. 2, H319<br>Flam. Liq. 2, H225<br>Repr. 2, H361d<br>Skin Irrit. 2, H315<br>STOT RE 1, H372<br><br>STOT RE 2, H373<br><br>STOT SE 1, H370<br><br>STOT SE 3, H336 | ACUTE TOXICITY (oral) - Category 3<br>ACUTE TOXICITY (dermal) - Category 3<br>ACUTE TOXICITY (inhalation) - Category 3<br>ACUTE TOXICITY (oral) - Category 4<br>ACUTE TOXICITY (dermal) - Category 4<br>ACUTE TOXICITY (inhalation) - Category 4<br>CARCINOGENICITY - Category 2<br>Repeated exposure may cause skin dryness or cracking.<br>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2<br>FLAMMABLE LIQUIDS - Category 2<br>REPRODUCTIVE TOXICITY (Unborn child) - Category 2<br>SKIN CORROSION/IRRITATION - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3 |
|--|---|

**Date of issue/ Date of revision** : 15/02/2017

**Date of previous issue** : 19/05/2016.

**Version** : 2

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