


**Product name:**  Multiple Heart-Cutting Starter Kit  
**Part no.:**  G4242-68000

This product is composed of the following:

### Kit Components, Reagents

Box/Module Part number	Box/Module Name	Kit Component Part Number	Kit Component Name	Qty Units	CLP
 -	-	5190-6895	2D-LC Solution	1	Yes
-	-	G2453-85060	Formic Acid	1	Yes

Article SDSs, if maintained, are available on [www.agilent.com](http://www.agilent.com). We recommend using the article product code when searching. SDSs are only available for a limited set of countries.

### Transport Information for the Kit:

**Dangerous Goods classification for:**  G4242-68000

ADR/RID	IMDG	IATA
 N3316, CHEMICAL KIT, 9, II	 N3316, CHEMICAL KIT, 9, II	 N3316, Chemical kit, 9, II

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2D-LC Solution.....	17

SDSs for each individual Kit component follow this cover sheet.



Formic Acid

## SECTION 2: Hazards identification

**Hazard statements** :  H226 - Flammable liquid and vapour.  
 H290 - May be corrosive to metals.  
 H302 - Harmful if swallowed.  
 H314 - Causes severe skin burns and eye damage.  
 H331 - Toxic if inhaled.

### Precautionary statements

**Prevention** : P280 - Wear protective gloves, protective clothing and eye or face protection.  
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response** : P304 + P310 - IF INHALED: Immediately call a POISON CENTER or doctor.  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

**Storage** : Not applicable.

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

**Supplemental label elements** : Corrosive to the respiratory tract.


**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.


### Special packaging requirements

**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** :

PBT	P	B	T	vPvB	vP	vB
 No	N/A	N/A	No	N/A	N/A	N/A

**Other hazards which do not result in classification** :  Causes digestive tract burns.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
 Formic acid	EC: 200-579-1 CAS: 64-18-6 Index: 607-001-00-0	100	Flam. Liq. 3, H226 Met. Corr. 1, H290 Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 EUH071	Flam. Liq. 3, H226: C ≥ 85% ATE [Oral] = 500 mg/kg ATE [Inhalation (vapours)] = 7.4 mg/l Skin Corr. 1A, H314: C ≥ 90% Skin Corr. 1B, H314: 10% ≤ C < 90% Skin Irrit. 2, H315: 2% ≤ C < 10%	[1]

Formic Acid

### SECTION 3: Composition/information on ingredients

				Eye Dam. 1, H318: C ≥ 10% Eye Irrit. 2, H319: 2% ≤ C < 10%
<b>See Section 16 for the full text of the H statements declared above.</b>				

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[1] Constituent

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

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. 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. 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.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with 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. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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. Chemical burns must be treated promptly by a 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  
 watering  
 redness
- Inhalation** : Adverse symptoms may include the following:  
 respiratory tract irritation  
 coughing

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## SECTION 4: First aid measures

- Skin contact** : Adverse symptoms may include the following:  
 pain or irritation  
 redness  
 blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
 stomach pains

### 4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- 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** : 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. 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.
- Hazardous combustion products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide

### 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).

**Formic Acid**

**SECTION 6: Accidental release measures**

**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. Absorb spillage to prevent material damage. 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 the vapour or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Absorb spillage to prevent material damage.

**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 in corrosive resistant container with a resistant inner liner. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep away from metals. 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 P5c	50 tonnes 5000 tonnes	200 tonnes 50000 tonnes

**7.3 Specific end use(s)**

**Recommendations** : Industrial applications, Professional applications.

**Industrial sector specific solutions** : Not available.

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Formic acid	<p><b>NAOSH (Ireland, 4/2024)</b> Notes: EU derived Occupational Exposure Limit Values                      OELV 8 hours: 5 ppm.                      OELV 8 hours: 9 mg/m<sup>3</sup>.</p> <p><b>EU OEL (Europe, 1/2022)</b>                      TWA 8 hours: 5 ppm.                      TWA 8 hours: 9 mg/m<sup>3</sup>.</p>

#### Biological exposure indices

No exposure indices known.

#### Recommended monitoring procedures

: 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

##### Product/ingredient name

##### Result

Formic acid

DNEL - General population - Long term - Inhalation 3 mg/m<sup>3</sup>  
 DNEL - Workers - Long term - Inhalation 9.5 mg/m<sup>3</sup>

#### 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

#### 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.

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

- 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**

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. [Clear.]
- Colour** : Colourless.
- Odour** : Pungent.
- Odour threshold** : 0.52 ppm
- Melting point/freezing point** : 4°C [OECD 102]
- Boiling point or initial boiling point and boiling range** : 100.23°C [OECD 103]
- Flammability** : Not applicable.
- Lower and upper explosion limit/flammability limit** : Lower: 18%  
Upper: 51%
- Flash point** : Closed cup: 49.5°C [DIN EN ISO 13736]
- Auto-ignition temperature** : 434°C
- Decomposition temperature** : Not available.
- pH** : Not available.
- Viscosity** : Dynamic (room temperature): 1.8 mPa·s [OECD 114]  
Kinematic (room temperature): 1.47 mm<sup>2</sup>/s [OECD 114]  
Kinematic (40°C): 1.02 mm<sup>2</sup>/s [OECD 114]
- Solubility** :

Media	Result
water	Soluble
- Partition coefficient: n-octanol/water** : -2.3 [OECD 107]
- Vapour pressure** : 4.3 kPa (32.03522 mm Hg) [room temperature] [EU A.4]  
17.4 kPa (130.51 mm Hg) [50°C]
- Relative density** : 1.2
- Density** : 1.22 g/cm<sup>3</sup>
- Relative vapour density** : 1.6 [Air = 1]

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**SECTION 9: Physical and chemical properties**

Particle characteristics

Median particle size : Not applicable.

**9.2 Other information**

**9.2.1 Information with regard to physical hazard classes**

Heat of combustion : -4756670 J/kg

Explosive properties : Slightly explosive in the presence of the following materials or conditions: oxidising materials.

Oxidising properties : Not available.

**9.2.2 Other safety characteristics**

Miscible with water : Yes.

Evaporation rate : 1.14 (butyl acetate = 1)

Physical/chemical properties comments : Not available.

**SECTION 10: Stability and reactivity**

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

**10.2 Chemical stability** : The product is stable.

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

**10.4 Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

**10.5 Incompatible materials** :  Reactive or incompatible with the following materials:  
oxidising materials  
metals  
 Reactive or incompatible with the following materials: alkalis.  
Slightly reactive or incompatible with the following materials: 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
<input checked="" type="checkbox"/> Formic acid	Rat - Oral - LD50 730 mg/kg Rat - Inhalation - LC50 Vapour 7400 mg/m <sup>3</sup> [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)
<input checked="" type="checkbox"/> Formic acid	500	N/A	N/A	7.4	N/A

Skin corrosion/irritation

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## SECTION 11: Toxicological information

**Conclusion/Summary** : Not available.  
**[Product]**

### Serious eye damage/eye irritation

<b>Product/ingredient name</b>	<b>Result</b>	<b>Amount/concentration applied:</b>
Formic acid	Rabbit - Eyes - Severe irritant	122 mg

**Conclusion/Summary** : Not available.  
**[Product]**

### Respiratory corrosion/irritation

**Conclusion/Summary** : Not available.  
**[Product]**

### Respiratory or skin sensitization

**Skin**  
**Conclusion/Summary** : Not available.  
**[Product]**

**Respiratory**  
**Conclusion/Summary** : Not available.  
**[Product]**

### Germ cell mutagenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Carcinogenicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Reproductive toxicity

**Conclusion/Summary** : Not available.  
**[Product]**

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### 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 damage.  
**Inhalation** : Toxic if inhaled. Corrosive to the respiratory tract. Causes burns.  
**Skin contact** : Causes severe burns.  
**Ingestion** : May cause burns to mouth, throat and stomach. Harmful if swallowed. Corrosive to the digestive tract. Causes burns.

### Symptoms related to the physical, chemical and toxicological characteristics

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**SECTION 11: Toxicological information**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

**11.2 Information on other hazards**

**11.2.1 Endocrine disrupting properties**

- 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.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	
Formic acid	Acute - NOEC - Fresh water	≥100 mg/l [21 days]
	Acute - EC50 - Fresh water	151.2 mg/l [48 hours]

- Conclusion/Summary [Product]** : Not available.

**12.2 Persistence and degradability**

Not available.

- Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Formic acid	-	-	Readily

**12.3 Bioaccumulative potential**

**Formic Acid**

**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Formic acid	-2.3	-	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
Formic acid	0.73	5.39642

**Results of PMT and vPvM assessment**

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Formic acid	No	N/A	Yes	No	N/A	N/A	Yes

**Mobility** : Not available.

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

**12.5 Results of PBT and vPvB assessment**

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

According to the results of its assessment, this substance is not a PBT or a vPvB.

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Formic acid	No	N/A	N/A	No	N/A	N/A	N/A

**Conclusion/Summary** : The product does not meet the criteria to be considered as a PBT or vPvB.

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

**12.6 Endocrine disrupting properties**

**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.

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## 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

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN1779	UN1779	UN1779
14.2 UN proper shipping name	FORMIC ACID	FORMIC ACID	Formic acid
14.3 Transport hazard class(es)	8 (3) 	8 (3) 	8 (3) 
14.4 Packing group	II	II	II
14.5 Environmental hazards	No.	No.	No.

### Additional information

**Remarks:** Excepted Quantity

**ADR/RID** : **Hazard identification number** 83  
**Limited quantity** 1 L  
**Tunnel code** (D/E)

**IMDG** : **Emergency schedules** F-E, S-C

**IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.

**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

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

##### Annex XIV - List of substances subject to authorisation

##### Annex XIV

##### Substances of very high concern

None of the components are 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

Formic Acid

## SECTION 15: Regulatory information

**Labelling** : Not applicable.

### Other EU regulations

#### Ozone depleting substances (EU 2024/590)

Not listed.

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

Not listed.

#### Persistent Organic Pollutants

Not listed.

### Seveso Directive

This product is controlled under the Seveso Directive.

#### Danger criteria

Category
H2 P5c

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

### Inventory list

- Australia** : This material is listed or exempted.
- Canada** : This material is listed or exempted.
- China** : This material is listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory**: This material is listed or exempted.
- Japan** : **Japan inventory (CSCL)**: This material is listed or exempted.  
**Japan inventory (ISHL)**: This material is listed or exempted.
- New Zealand** : This material is listed or exempted.
- Philippines** : This material is listed or exempted.
- Republic of Korea** : This material is listed or exempted.
- Taiwan** : This material is listed or exempted.
- Thailand** : This material is listed or exempted.
- Turkey** : This material is listed or exempted.
- United States** : This material is active or exempted.
- Viet Nam** : This material is listed or exempted.

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

Formic Acid

## 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  
 B = Bioaccumulative  
 BCF = Bioconcentration Factor  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 IATA = International Air Transport Association  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 M = Mobile  
 N/A = Not available  
 P = Persistent  
 PBT = Persistent, Bioaccumulative and Toxic  
 PMT = Persistent, Mobile 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  
 T = Toxic  
 vB = Very Bioaccumulative  
 vM = Very Mobile  
 vP = Very Persistent  
 vPvB = Very Persistent and Very Bioaccumulative  
 vPvM = Very Persistent and Very Mobile

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

Classification	Justification
Flam. Liq. 3, H226 Met. Corr. 1, H290 Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Corr. 1A, H314 Eye Dam. 1, H318	Expert judgment Expert judgment Regulatory data Regulatory data Expert judgment Expert judgment

### Full text of abbreviated H statements

H226 H290 H302 H314 H318 H331 EUH071	Flammable liquid and vapour. May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Toxic if inhaled. Corrosive to the respiratory tract.
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### Full text of classifications [CLP/GHS]

Acute Tox. 3 Acute Tox. 4 Eye Dam. 1 Flam. Liq. 3 Met. Corr. 1 Skin Corr. 1A	ACUTE TOXICITY - Category 3 ACUTE TOXICITY - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 FLAMMABLE LIQUIDS - Category 3 CORROSIVE TO METALS - Category 1 SKIN CORROSION/IRRITATION - Category 1A
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Date of issue/ Date of revision : 29/04/2026

Date of previous issue : 13/11/2025

*Formic Acid*

## SECTION 16: Other information

Version : 2

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

# SAFETY DATA SHEET

2D-LC Solution

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

### 1.1 Product identifier

**Product name** : 2D-LC Solution  
**Part no.** : 5190-6895

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

**Identified uses** : Reagents and Standards for Analytical Chemistry Laboratory Use  
 2 ml  
**Uses advised against** : None known.

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

Agilent Technologies Deutschland GmbH  
 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®: +353 1 901 4670

## 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
H312	ACUTE TOXICITY (dermal)	Category 4
H332	ACUTE TOXICITY (inhalation)	Category 4
H319	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 2
H350	CARCINOGENICITY	Category 1B
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H410	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 1

The product is classified as hazardous according to Regulation (EC) 1272/2008 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

**Hazard statements** : H225 - Highly flammable liquid and vapour.  
 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.  
 H319 - Causes serious eye irritation.  
 H350 - May cause cancer.  
 H410 - Very toxic to aquatic life with long lasting effects.

2D-LC Solution

## SECTION 2: Hazards identification

### 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.  
P273 - Avoid release to the environment.
- Response** : P391 - Collect spillage.
- Storage** : Not applicable.
- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : acetonitrile and diuron (ISO)

**Supplemental label elements** : Repeated exposure may cause skin dryness or cracking.  
Contains atrazine (ISO), metazachlor (ISO) and desethylterbutylazine. May produce an allergic reaction.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Restricted to professional users.

### Special packaging requirements

**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	Specific Conc. Limits, M-factors and ATEs	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	ATE [Oral] = 500 mg/kg ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
acetone	EC: 200-662-2 CAS: 67-64-1 Index: 606-001-00-8	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
atrazine (ISO)	EC: 217-617-8 CAS: 1912-24-9 Index: 613-068-00-7	≤0.3	Skin Sens. 1, H317 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 100	[1] [2]
1,3,5-Triazine-2,4-diamine,	CAS: 6190-65-4	≤0.3	Acute Tox. 4, H302	ATE [Oral] = 500	[1]

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

6-chloro-N(sup 2)-(1-methylethyl)-			Acute Tox. 4, H332 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l M [Acute] = 1 M [Chronic] = 1	
chlorotoluron (ISO)	EC: 239-592-2 CAS: 15545-48-9 Index: 616-105-00-5	≤0.3	Carc. 2, H351 Repr. 2, H361d Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 10	[1]
diuron (ISO)	EC: 206-354-4 CAS: 330-54-1 Index: 006-015-00-9	≤0.3	Acute Tox. 4, H302 Carc. 1B, H350 STOT RE 2, H373 (blood system) Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1000 mg/kg M [Acute] = 100 M [Chronic] = 100	[1] [2]
hexazinone (ISO)	EC: 257-074-4 CAS: 51235-04-2 Index: 613-132-00-4	≤0.3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1690 mg/kg M [Acute] = 100 M [Chronic] = 100	[1]
linuron (ISO)	EC: 206-356-5 CAS: 330-55-2 Index: 006-021-00-1	≤0.3	Acute Tox. 4, H302 Carc. 2, H351 Repr. 1B, H360Df STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1146 mg/kg M [Acute] = 10 M [Chronic] = 100	[1]
metazachlor (ISO)	EC: 266-583-0 CAS: 67129-08-2 Index: 616-205-00-9	≤0.3	Skin Sens. 1B, H317 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 100	[1]
methabenzthiazuron (ISO)	EC: 242-505-0 CAS: 18691-97-9 Index: 613-137-00-1	≤0.3	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 10 M [Chronic] = 10	[1]
metoxuron (ISO)	EC: 243-433-2 CAS: 19937-59-8 Index: 006-033-00-7	≤0.3	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
prometryn	EC: 230-711-3 CAS: 7287-19-6	≤0.3	Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1802 mg/kg M [Acute] = 100 M [Chronic] = 100	[1]
terbutylazine (ISO)	EC: 227-637-9 CAS: 5915-41-3 Index: 613-323-00-2	≤0.3	Acute Tox. 4, H302 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1845 mg/kg M [Acute] = 10 M [Chronic] = 10	[1]
desethylterbutylazine	CAS: 30125-63-4	≤0.3	Skin Sens. 1, H317 Aquatic Chronic 1, H410	M [Chronic] = 10	[1]

2D-LC Solution

### SECTION 3: Composition/information on ingredients

			See Section 16 for the full text of the H statements declared above.		
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- 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 skin thoroughly with soap and water or use recognised skin cleanser. 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** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking

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## 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<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. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
cyanides

### 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. Avoid breathing 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

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## 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 release to the environment. Avoid contact with eyes, skin and clothing. Do not ingest. Empty containers retain product residue and can be hazardous. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Do not reuse container. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. 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
P5c	5000 tonnes	50000 tonnes
E1	100 tonnes	200 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	<b>NAOSH (Ireland, 4/2024)</b> Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 40 ppm. OELV 8 hours: 70 mg/m <sup>3</sup> . OELV 15 minutes: 4 mg/m <sup>3</sup> . OELV 15 minutes: 1.8 ppm. <b>EU OEL (Europe, 1/2022)</b> Absorbed through skin. TWA 8 hours: 40 ppm. TWA 8 hours: 70 mg/m <sup>3</sup> .
acetone	<b>NAOSH (Ireland, 4/2024)</b> Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 500 ppm. OELV 8 hours: 1210 mg/m <sup>3</sup> . <b>EU OEL (Europe, 1/2022)</b> TWA 8 hours: 500 ppm. TWA 8 hours: 1210 mg/m <sup>3</sup> .
atrazine (ISO)	<b>NAOSH (Ireland, 4/2024)</b> Sensitiser. Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV 8 hours: 2 mg/m <sup>3</sup> .
diuron (ISO)	<b>NAOSH (Ireland, 4/2024)</b> Carc 1B. Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV 8 hours: 10 mg/m <sup>3</sup> .

Biological exposure indices

Product/ingredient name	Exposure indices
acetone	<b>NAOSH BGVs (Ireland, 1/2011)</b> BMGV: 50 mg/l, acetone [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.

**Recommended monitoring procedures**

: 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

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
acetone	DNEL - General population - Long term - Inhalation 2.4 mg/m <sup>3</sup> DNEL - General population - Long term - Oral 62 mg/kg bw/day DNEL - General population - Long term - Dermal 62 mg/kg bw/day DNEL - Workers - Long term - Dermal 186 mg/kg bw/day DNEL - General population - Long term - Inhalation 200 mg/m <sup>3</sup> DNEL - Workers - Long term - Inhalation 1210 mg/m <sup>3</sup> DNEL - Workers - Short term - Inhalation 2420 mg/m <sup>3</sup>
diuron (ISO)	DNEL - Workers - Long term - Inhalation 0.17 mg/m <sup>3</sup> DNEL - Workers - Long term - Dermal 5.79 mg/kg bw/day
prometryn	DNEL - General population - Long term - Oral 0.12 mg/kg bw/day DNEL - General population - Long term - Dermal 0.22 mg/kg bw/day DNEL - General population - Long term - Inhalation 0.38 mg/m <sup>3</sup> DNEL - Workers - Long term - Dermal 0.62 mg/kg bw/day DNEL - Workers - Long term - Inhalation 2.22 mg/m <sup>3</sup>

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

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.

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**SECTION 9: Physical and chemical properties**

**Melting point/freezing point** : Not available.  
**Boiling point or initial boiling point and boiling range** : Not available.  
**Flammability** : Not applicable.  
**Lower and upper explosion limit/flammability limit** : Not available.  
**Flash point** : Closed cup: -18 to 23°C

Auto-ignition temperature	Ingredient name	°C	Method
	acetone	465	-
	acetonitrile	524	-

**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	Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
		mm Hg	kPa	Method	mm Hg	kPa	Method
	acetone	180.01463	24	-	-	-	-
	acetonitrile	70.88853	9.5	-	-	-	-

**Relative density** : Not available.  
**Relative 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.

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## 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
- 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]
acetone	Rat - Oral - LD50 5800 mg/kg
atrazine (ISO)	Rabbit - Dermal - LD50 7500 mg/kg Rat - Oral - LD50 672 mg/kg Rat - Dermal - LD50 3 g/kg Rat - Inhalation - LC50 Dusts and mists 5200 mg/m <sup>3</sup> [4 hours]
chlorotoluron (ISO)	Rat - Oral - LD50 5800 mg/kg
diuron (ISO)	Rat - Dermal - LD50 >5 g/kg Rat - Oral - LD50 1 g/kg Rat - Male, Female - Inhalation - LC50 Dusts and mists >5.05 mg/l [4 hours]
hexazinone (ISO)	Rat - Oral - LD50 1690 mg/kg Rat - Dermal - LD50 5278 mg/kg Rabbit - Dermal - LD50 >5278 mg/kg
linuron (ISO)	Rat - Oral - LD50 1146 mg/kg Rabbit - Dermal - LD50 >5 g/kg
metazachlor (ISO)	Rat - Oral - LD50 1 g/kg Rat - Dermal - LD50 >6810 mg/kg
metoxuron (ISO)	Rat - Oral - LD50 1600 mg/kg
prometryn	Rat - Oral - LD50 1802 mg/kg
terbuthylazine (ISO)	Rat - Oral - LD50 1845 mg/kg Rat - Dermal - LD50 >2000 mg/kg Rat - Inhalation - LC50 Dusts and mists >5.3 mg/l [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)

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**SECTION 11: Toxicological information**

2D-LC Solution	638.8	1405.3	N/A	14.1	N/A
acetonitrile	500	1100	N/A	11	N/A
acetone	5800	20000	N/A	76	N/A
atrazine (ISO)	N/A	3000	N/A	N/A	5.2
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-	500	N/A	N/A	N/A	1.5
chlorotoluron (ISO)	5800	N/A	N/A	N/A	N/A
diuron (ISO)	1000	N/A	N/A	N/A	N/A
hexazinone (ISO)	1690	5278	N/A	N/A	N/A
linuron (ISO)	1146	N/A	N/A	N/A	N/A
prometryn	1802	N/A	N/A	N/A	N/A
terbuthylazine (ISO)	1845	N/A	N/A	N/A	N/A

**Skin corrosion/irritation**

**Product/ingredient name**

**Result**

acetone

Rabbit - Skin - Mild irritant

Duration of treatment/  
exposure: 24 hours

Amount/concentration  
applied: 500 mg

Rabbit - Skin - Mild irritant

Amount/concentration  
applied: 395 mg

atrazine (ISO)

Rabbit - Skin - Mild irritant

Amount/concentration  
applied: 38 mg

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

**[Product]**

**Ingredient name**

**Conclusion/Summary**

acetone

Repeated exposure may cause skin dryness or cracking.  
Causes mild skin irritation.

**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

acetone

Rabbit - Eyes - Mild irritant

Amount/concentration  
applied: 10 uL

Rabbit - Eyes - Moderate irritant

Duration of treatment/  
exposure: 24 hours

Amount/concentration  
applied: 20 mg

atrazine (ISO)

Rabbit - Eyes - Severe irritant

Amount/concentration  
applied: 6320 ug

hexazinone (ISO)

Rabbit - Eyes - Moderate irritant

Amount/concentration  
applied: 48 mg

prometryn

Rabbit - Eyes - Mild irritant

Amount/concentration  
applied: 80 mg

**Conclusion/Summary** : Not available.

**[Product]**

**Respiratory corrosion/irritation**

**Conclusion/Summary** : Not available.

**[Product]**

**Ingredient name**

**Conclusion/Summary**

acetonitrile

May cause respiratory irritation.

## SECTION 11: Toxicological information

### 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]** : Not available.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Result
acetone	STOT SE 3, H336 (Narcotic effects)

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
atrazine (ISO)	STOT RE 2, H373
diuron (ISO)	STOT RE 2, H373 (blood system)
linuron (ISO)	STOT RE 2, H373
terbutylazine (ISO)	STOT RE 2, H373

### 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** : Harmful if inhaled.

**Skin contact** : Harmful in contact with skin. Defatting to the skin. May cause skin dryness and 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** : No specific data.

**Skin contact** : Adverse symptoms may include the following:  
irritation  
dryness  
cracking

**Ingestion** : No specific data.

**SECTION 11: Toxicological information****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** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.**Carcinogenicity** : May cause 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.**11.2 Information on other hazards****11.2.1 Endocrine disrupting properties****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.**Other information** : Adverse symptoms may include the following: May cause skin sensitisation.**SECTION 12: Ecological information****12.1 Toxicity****Product/ingredient name****Result**

acetone	Acute - LC50 - Fresh water	3600 mg/l [48 hours]
	Acute - IC50 - Fresh water	3685 mg/l [96 hours]
	Chronic - NOEC - Fresh water	160 mg/l [21 days]
	Chronic - NOEC - Fresh water	1000 mg/l [96 hours]
	Acute - LC50 - Fresh water	1000 mg/l [96 hours]
atrazine (ISO)	Acute - EC50 - Fresh water	7200 mg/l [96 hours]
	Chronic - NOEC - Marine water	4.95 mg/l [96 hours]
	Chronic - NOEC - Fresh water	0.016 ml/l [21 days]
	Acute - LC50 - Marine water	4.42589 ml/l [48 hours]
	Acute - LC50 - Fresh water	5600 ppm [96 hours]
1,3,5-Triazine-2,4-diamine, 6-chloro-N (sup 2)-(1-methylethyl)-chlorotoluron (ISO)	Acute - EC50 - Fresh water	240 µg/l [48 hours]
	Chronic - NOEC - Fresh water	0.26 ppb [16 weeks]
	Acute - LC50 - Fresh water	1.25 ppm [96 hours]
	Chronic - NOEC - Fresh water	25 µg/l [21 days]
	Acute - EC50 - Fresh water	0.004 mg/l [96 hours]
diuron (ISO)	Chronic - NOEC - Fresh water	0.0005 mg/l [96 hours]
	Acute - EC50 - Fresh water	821 µg/l [96 hours]
	Chronic - NOEC - Fresh water	10 µg/l [96 hours]
	Acute - LC50 - Fresh water	35 ppm [96 hours]
	Acute - EC50 - Fresh water	0.0085 mg/l [96 hours]
hexazinone (ISO)	Acute - LC50 - Fresh water	500 µg/l [96 hours]
	Acute - LC50 - Fresh water	380 µg/l [48 hours]
	Chronic - NOEC	26.4 ppb [60 days]
	Chronic - EC10 - Fresh water	0.11 µg/l [96 hours]
	Acute - EC50 - Fresh water	0.0007 mg/l [96 hours]
	Chronic - NOEC - Fresh water	85.5 µg/l [396 days]
	Chronic - NOEC - Fresh water	0.1 mg/l [21 days]

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	Acute - LC50 - Fresh water	146.7 ppm [96 hours]
	Acute - LC50 - Fresh water	71.6 mg/l [48 hours]
	Acute - IC50 - Marine water	4.4 µg/l [72 hours]
	Chronic - NOEC - Marine water	0.37 µg/l [72 hours]
linuron (ISO)	Chronic - EC10 - Fresh water	1.2 µg/l [3 days]
	Acute - EC50 - Fresh water	6 µg/l [3 days]
	Chronic - NOEC - Fresh water	0.13 ppm [21 days]
	Acute - LC50 - Marine water	0.89 ppm [96 hours]
	Acute - EC50 - Fresh water	0.12 ppm [48 hours]
	Chronic - NOEC - Fresh water	1 µg/l [28 days]
metazachlor (ISO)	Chronic - NOEC	0.01 mg/l [72 hours]
	Acute - EC50	245 µg/l [96 hours]
methabenzthiazuron (ISO)	Acute - EC50 - Fresh water	0.0209 mg/l [96 hours]
metoxuron (ISO)	Acute - LC50 - Fresh water	122 mg/l [48 hours]
	Acute - LC50 - Fresh water	40 mg/l [96 hours]
prometryn	Acute - EC50 - Fresh water	9700 µg/l [48 hours]
	Acute - LC50 - Fresh water	2300 µg/l [96 hours]
	Acute - EC50 - Fresh water	0.00165 mg/l [96 hours]
	Chronic - NOEC - Fresh water	1 ppm [21 days]
	Chronic - NOEC - Fresh water	0.51 µg/l [60 days]
	Chronic - NOEC - Fresh water	2.5 µg/l [4 days]
terbuthylazine (ISO)	Acute - EC50 - Fresh water	21.2 ppm [48 hours]
	Chronic - NOEC - Fresh water	820 µg/l [30 days]
	Acute - LC50 - Fresh water	1.6 ppm [96 hours]
	Acute - EC50 - Fresh water	9 µg/l [72 hours]
	Chronic - NOEC - Fresh water	2 µg/l [72 hours]
desethylterbutylazine	Chronic - NOEC - Fresh water	1.8 µg/l [36 days]

**Conclusion/Summary** : Not available.  
**[Product]**

**12.2 Persistence and degradability**

Product/ingredient name	Result		
acetonitrile	-	70% [21 days] - Readily	-
atrazine (ISO)	-	9.86% [28 days] - Not readily	-
diuron (ISO)	Aerobic	0% [28 days] - Not readily	Aerobic
prometryn	Aerobic	0% [28 days] - Not readily	Aerobic

**Conclusion/Summary** : Not available.  
**[Product]**

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
acetonitrile	-	-	Readily
acetone	-	-	Readily
atrazine (ISO)	-	-	Not readily
diuron (ISO)	-	-	Not readily
prometryn	-	-	Not readily

**12.3 Bioaccumulative potential**

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**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
acetonitrile	-0.34	3	Low
acetone	-0.23	3	Low
atrazine (ISO)	2.59	7.94	Low
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-chlorotoluron (ISO)	1.51	-	Low
diuron (ISO)	2.84	5.2 [OECD 305 C]	Low
hexazinone (ISO)	1.85	-	Low
linuron (ISO)	3.2	17.78	Low
metazachlor (ISO)	2.13	-	Low
methabenzthiazuron (ISO)	2.64	-	Low
metoxuron (ISO)	1.64	-	Low
prometryn	3.51	-	Low
terbutylazine (ISO)	3.21	-	Low

**12.4 Mobility in soil**

**Soil/water partition coefficient**

Product/ingredient name	logK <sub>oc</sub>	K <sub>oc</sub>
acetonitrile	0.42	2.62657
acetone	0.56	3.6548
atrazine (ISO)	2.2	173.852
1,3,5-Triazine-2,4-diamine, 6-chloro-N (sup 2)-(1-methylethyl)-chlorotoluron (ISO)	2	98.6632
diuron (ISO)	2.4	250.231
hexazinone (ISO)	1.7	53.7751
linuron (ISO)	2.7	499.316
metazachlor (ISO)	2.2	151.02
methabenzthiazuron (ISO)	2.8	628.36
metoxuron (ISO)	1.7	52.5977
prometryn	2.8	707.421
terbutylazine (ISO)	2.3	209.524
desethylterbutylazine	2.1	140.554

**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
acetone	No	No	Yes	No	No	No	Yes
atrazine (ISO)	No	No	No	No	No	No	No
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-chlorotoluron (ISO)	No	N/A	Yes	No	N/A	N/A	Yes
diuron (ISO)	No	No	No	No	No	No	No
hexazinone (ISO)	N/A	N/A	Yes	Yes	No	N/A	No
linuron (ISO)	No	No	No	No	No	No	No
metazachlor (ISO)	No	No	No	No	No	No	No
methabenzthiazuron (ISO)	No	No	No	No	No	No	No
metoxuron (ISO)	No	No	No	No	No	No	No
prometryn	N/A	N/A	Yes	Yes	No	N/A	No
terbutylazine (ISO)	N/A	N/A	Yes	Yes	No	N/A	No
desethylterbutylazine	N/A	N/A	Yes	Yes	No	N/A	No

**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]**

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**SECTION 12: Ecological information**

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
acetonitrile	No	N/A	No	No	No	N/A	No
acetone	No	No	No	No	No	No	No
atrazine (ISO)	No	N/A	No	Yes	No	N/A	No
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-chlorotoluron (ISO)	No	N/A	N/A	No	N/A	N/A	N/A
diuron (ISO)	N/A	N/A	N/A	Yes	N/A	N/A	N/A
hexazinone (ISO)	No	N/A	No	Yes	No	N/A	No
linuron (ISO)	N/A	N/A	N/A	Yes	N/A	N/A	N/A
metazachlor (ISO)	No	N/A	No	Yes	No	N/A	No
metabenzthiazuron (ISO)	No	N/A	N/A	No	N/A	N/A	N/A
metoxuron (ISO)	No	N/A	N/A	No	N/A	N/A	N/A
prometryn	N/A	N/A	N/A	Yes	N/A	N/A	N/A
terbutylazine (ISO)	N/A	N/A	N/A	Yes	N/A	N/A	N/A
desethylterbutylazine	N/A	N/A	N/A	Yes	N/A	N/A	N/A

**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
acetone	No	No	No	No	No	No	No
atrazine (ISO)	No	No	No	No	No	No	No
1,3,5-Triazine-2,4-diamine, 6-chloro-N(sup 2)-(1-methylethyl)-chlorotoluron (ISO)	No	N/A	N/A	No	N/A	N/A	N/A
diuron (ISO)	No	No	No	No	No	No	No
hexazinone (ISO)	No	N/A	No	Yes	No	N/A	No
linuron (ISO)	No	No	No	No	No	No	No
metazachlor (ISO)	No	No	No	No	No	No	No
metabenzthiazuron (ISO)	No	No	No	No	No	No	No
metoxuron (ISO)	No	No	No	No	No	No	No
prometryn	N/A	N/A	N/A	Yes	N/A	N/A	N/A
terbutylazine (ISO)	N/A	N/A	N/A	Yes	N/A	N/A	N/A
desethylterbutylazine	N/A	N/A	N/A	Yes	N/A	N/A	N/A

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

**12.6 Endocrine disrupting properties**

**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.

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## SECTION 13: Disposal considerations

### 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
<b>14.1 UN number or ID number</b>	UN1993	UN1993	UN1993
<b>14.2 UN proper shipping name</b>	FLAMMABLE LIQUID, N.O.S. (Acetonitrile, Acetone)	FLAMMABLE LIQUID, N.O.S. (Acetonitrile, Acetone)	Flammable liquid, n.o.s. (Acetonitrile, Acetone)
<b>14.3 Transport hazard class(es)</b>	3 	3 	3 
<b>14.4 Packing group</b>	II	II	II
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

### Additional information

**Remarks:** Excepted Quantity

**ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Hazard identification number** 33  
**Limited quantity** 1 L  
**Special provisions** 601, 274, 640C  
**Tunnel code** (D/E)

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.  
**Emergency schedules** F-E, \_S-E\_  
**Special provisions** 274

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.  
**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.

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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

###### Substances of very high concern

None of the components are 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** : Restricted to professional users.

#### Other EU regulations

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

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

#### Ozone depleting substances (EU 2024/590)

Not listed.

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

Ingredient name	Annex	Status
diuron	Annex I - Part 1	Listed
diuron	Annex I - Part 2	Listed

#### Persistent Organic Pollutants

Not listed.

#### Seveso Directive

This product is controlled under the Seveso Directive.

##### Danger criteria

Category
P5c E1

#### International regulations

##### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

##### Montreal Protocol

Not listed.

##### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

#### Inventory list

**Australia** : Not determined.

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## SECTION 15: Regulatory information

Canada	: Not determined.
China	: Not determined.
Eurasian Economic Union	: <b>Russian Federation inventory:</b> All components are listed or exempted.
Japan	: <b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: At least one component is inactive.
Viet Nam	: 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
- B = Bioaccumulative
- BCF = Bioconcentration Factor
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DMEL = Derived Minimal Effect Level
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- IMO = International Maritime Organization
- M = Mobile
- N/A = Not available
- P = Persistent
- PBT = Persistent, Bioaccumulative and Toxic
- PMT = Persistent, Mobile 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
- T = Toxic
- vB = Very Bioaccumulative
- vM = Very Mobile
- vP = Very Persistent
- vPvB = Very Persistent and Very Bioaccumulative
- vPvM = Very Persistent and Very Mobile

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

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**SECTION 16: Other information**

Classification	Justification
Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	Expert judgment Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

**Full text of abbreviated H statements**

H225 H302 H312 H317 H319 H332 H336 H350 H351 H360Df H361d H373  H400 H410 EUH066	Highly flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause drowsiness or dizziness. May cause cancer. Suspected of causing cancer. May damage the unborn child. Suspected of damaging fertility. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. Repeated exposure may cause skin dryness or cracking.
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**Full text of classifications [CLP/GHS]**

Acute Tox. 4 Aquatic Acute 1 Aquatic Chronic 1 Carc. 1B Carc. 2 Eye Irrit. 2 Flam. Liq. 2 Repr. 1B Repr. 2 Skin Sens. 1 Skin Sens. 1B STOT RE 2  STOT SE 3	ACUTE TOXICITY - Category 4 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 CARCINOGENICITY - Category 1B CARCINOGENICITY - Category 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2 REPRODUCTIVE TOXICITY - Category 1B REPRODUCTIVE TOXICITY - Category 2 SKIN SENSITISATION - Category 1 SKIN SENSITISATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
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**Notice to reader**

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