

# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date Not Applicable

Revision Number N/A

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

### 1.1. Product identifier

**Product Code(s)** DRE-CA16230000

**Product Name** Piperidine

**Form** Not applicable

*NOTE [8] - No registration number is given for this substance because it is under the threshold in REACH Article 6(1) and not subject to the registration requirements according to REACH Title II*

**EC No (EU Index No)** 203-813-0

**CAS No** 110-89-4

**Chemical name** piperidine

**Pure substance/mixture** Substance

**Formula** C<sub>5</sub>H<sub>11</sub>N

**Molecular weight** C<sub>5</sub>H<sub>11</sub>N

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

**Recommended use** Laboratory use

**Uses advised against** No information available

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

#### **Supplier**

Will be updated as per company.

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## 1.4. Emergency telephone number

Emergency Telephone Will be updated as per company.

Emergency Telephone - §45 - (EC)1272/2008	
Europe	112
Austria	No information available
Bulgaria	
Croatia	
Cyprus	
Czech Republic	
Denmark	
France	
Hungary	
Ireland	
Italy	
Lithuania	
Luxembourg	
Netherlands	
Norway	
Portugal	
Romania	
Slovakia	
Slovenia	
Spain	
Sweden	
Switzerland	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 3 - (H311)
Acute toxicity - Inhalation (Vapours)	Category 3 - (H331)
Skin corrosion/irritation	Category 1 - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Chronic aquatic toxicity	Category 3 - (H412)
Flammable liquids	Category 2 - (H225)

# Will be updated as per company.

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### 2.2. Label elements

Contains piperidine



**Signal word**  
Danger

#### Hazard statements

H302 - Harmful if swallowed  
H311 - Toxic in contact with skin  
H314 - Causes severe skin burns and eye damage  
H331 - Toxic if inhaled  
H412 - Harmful to aquatic life with long lasting effects  
H225 - Highly flammable liquid and vapour

#### Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P370 + P378 - In case of fire: Use dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam to extinguish  
P403 + P235 - Store in a well-ventilated place. Keep cool

### 2.3. Other hazards

Harmful to aquatic life.

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

This product does not contain any known or suspected endocrine disruptors.

Chemical name	EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation	EU - REACH (1907/2006) - Endocrine Disruptor Assessment List of Substances
piperidine	-	-

## SECTION 3: Composition/information on ingredients

# Will be updated as per company.

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### 3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
piperidine 110-89-4	100	-	203-813-0	Flam. Liq. 2 (H225) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Acute Tox. 4 (H302) Skin Corr. 1B (H314) Aquatic Chronic 3 (H412)			

Full text of H- and EUH-phrases: see section 16

#### Acute Toxicity Estimate

*If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATE<sub>mix</sub>) for classifying a mixture based on its components*

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
piperidine 110-89-4	337	275	No data available	4.8403	No data available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. Immediate medical attention is required.

#### Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

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	eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Remove all sources of ignition. Avoid contact with skin, eyes or clothing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapour or mist.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

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

**Note to doctors** Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## **SECTION 5: Firefighting measures**

### 5.1. Extinguishing media

**Suitable Extinguishing Media** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Alcohol resistant foam.

**Large Fire** CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards arising from the chemical** Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

### 5.3. Advice for firefighters

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**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. See section 8 for more information. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Attention! Corrosive material. Do not breathe vapour or mist.

**Other information** Refer to protective measures listed in Sections 7 and 8. Ventilate the area.

**For emergency responders** Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

**Environmental precautions** Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

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

**Methods for containment** Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

**Methods for cleaning up** Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

### 6.4. Reference to other sections

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Advice on safe handling** In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only

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in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Do not breathe vapour or mist. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash it before reuse. Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

### General hygiene considerations

Do not breathe vapour or mist. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Conditions#

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Protect from moisture. Store away from other materials. Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA.

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
piperidine 110-89-4	-	-	-	TWA: 0.2 mg/m <sup>3</sup>	TWA: 1 ppm TWA: 3.5 mg/m <sup>3</sup>
Chemical name	Ireland	Italy	Italy REL	Latvia	Lithuania
piperidine 110-89-4	TWA: 1 ppm TWA: 3.5 mg/m <sup>3</sup> STEL: 10.5 mg/m <sup>3</sup> STEL: 3 ppm	-	-	TWA: 0.2 mg/m <sup>3</sup>	* TWA: 0.2 mg/m <sup>3</sup>

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Chemical name	Sweden	Switzerland	United Kingdom
piperidine 110-89-4	-	-	TWA: 1 ppm TWA: 3.5 mg/m <sup>3</sup> STEL: 3 ppm STEL: 10.5 mg/m <sup>3</sup> Sk*

### Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

#### Personal protective equipment

##### Eye/face protection

Tight sealing safety goggles. Face protection shield. Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

##### Hand protection

Wear suitable gloves. Impervious gloves. The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Short term	Wear protective nitrile rubber gloves	0.4 mm	30 minutes
Short term	Wear protective butyl rubber gloves	0.7 mm	30 minutes

##### Skin and body protection

Long sleeved clothing. Chemical resistant apron. Antistatic boots. Wear suitable protective clothing.

##### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

##### General hygiene considerations

Do not breathe vapour or mist. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid contact with

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skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	colourless
Odour	amine.
Odour threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	-10.8 °C	None known
Initial boiling point and boiling range	107.2 °C	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	10.3 vol.%	
Lower flammability or explosive limits	1.3 vol.%	
Flash point	7.5 °C	None known
Autoignition temperature	339 °C	None known
Decomposition temperature	107.2 °C	None known
pH	12.6	None known
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	No data available	None known
Dynamic viscosity	1.52 mPa s	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	0.64 - 0.7	None known
Vapour pressure	19.58	None known
Relative density	0.862 g/cm <sup>3</sup>	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapour density	3.0	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

#### 9.2. Other information

Molecular weight	C <sub>5</sub> H <sub>11</sub> N
Molecular formula	C <sub>5</sub> H <sub>11</sub> N

##### 9.2.1. Information with regards to physical hazard classes

# Will be updated as per company.

Not applicable 107.2 °C 107.2 °C

#### 9.2.2. Other safety characteristics

No information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity No information available.

#### 10.2. Chemical stability

Stability Stable under normal conditions.

#### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

#### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

#### 10.4. Conditions to avoid

Conditions to avoid Excessive heat. Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

#### 10.5. Incompatible materials

Incompatible materials Acids. Bases. Oxidising agent.

Hazardous decomposition products None known based on information supplied.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Information on likely routes of exposure

##### Product Information

##### Inhalation

Specific test data for the substance or mixture is not available. (based on components). Toxic by inhalation. Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic

edema of the lungs. Pulmonary edema can be fatal.

- Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
- Skin contact** Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. Toxic in contact with skin.
- Ingestion** Specific test data for the substance or mixture is not available. (based on components). Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

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

**Symptoms** Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause blindness.

**Numerical measures of toxicity**

**Acute toxicity**

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
piperidine	= 337 mg/kg ( Rat )	= 275 mg/kg ( Rabbit )	= 1390 ppm ( Rat ) 4 h

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

- Skin corrosion/irritation** Classification based on data available for ingredients. Causes severe skin burns and eye damage.
- Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye damage. Causes burns.
- Respiratory or skin sensitisation** No information available.
- Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

#### 11.2. Information on other hazards

##### 11.2.1. Endocrine disrupting properties

**Endocrine disrupting properties** No information available.

##### 11.2.2. Other information

**Other adverse effects** No information available.

### **SECTION 12: Ecological information**

#### 12.1. Toxicity

**Ecotoxicity** Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
piperidine	EC50: 106 mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: >100 mg/L (96h, <i>Leuciscus idus</i> )	-	EC50: 19 mg/L (48h, <i>Daphnia magna</i> )

#### 12.2. Persistence and degradability

**Persistence and degradability** No information available.

#### 12.3. Bioaccumulative potential

**Bioaccumulation** There is no data for this product.

**Component Information**

Chemical name	Partition coefficient
piperidine	0.64 to 0.7 at 20°C

**12.4. Mobility in soil**

**Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment**

**PBT and vPvB assessment** The product contains substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
piperidine	The substance is not PBT / vPvB

**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

**12.7. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**SECTION 14: Transport information**

**IATA**

- 14.1 UN number or ID number UN2401
- 14.2 UN proper shipping name Piperidine
- 14.3 Transport hazard class(es) 8
- Subsidiary hazard class 3
- 14.4 Packing group I
- Description UN2401, Piperidine, 8 (3), I

14.5 Environmental hazards Yes  
 14.6 Special precautions for user  
 Special Provisions None  
 ERG Code 8F

**IMDG**

14.1 UN number or ID number UN2401  
 14.2 UN proper shipping name Piperidine  
 14.3 Transport hazard class(es) 8  
 Subsidiary hazard class 3  
 14.4 Packing group I  
 Description UN2401, Piperidine, 8 (3), I, (7.5°C c.c.), Marine pollutant  
 14.5 Marine pollutant P  
 Environmental hazards Yes  
 14.6 Special precautions for user  
 Special Provisions None  
 EmS-No F-E, S-C No information available  
 14.7 Maritime transport in bulk according to IMO instruments No information available

**RID**

14.1 UN number or ID number UN2401  
 14.2 UN proper shipping name Piperidine  
 14.3 Transport hazard class(es) 8  
 Subsidiary hazard class 3  
 14.4 Packing group I  
 Description UN2401, Piperidine, 8 (3), I, Environmentally Hazardous  
 14.5 Environmental hazards Yes  
 14.6 Special precautions for user  
 Special Provisions None  
 Classification code CF1

**ADR**

14.1 UN number or ID number UN2401  
 14.2 UN proper shipping name Piperidine  
 14.3 Transport hazard class(es) 8  
 Subsidiary hazard class 3  
 14.4 Packing group I  
 Description UN2401, Piperidine, 8 (3), I, (D/E), Environmentally Hazardous  
 14.5 Environmental hazards Yes  
 14.6 Special precautions for user  
 Special Provisions None  
 Classification code CF1  
 Tunnel restriction code (D/E)

**SECTION 15: Regulatory information**

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

**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

Poland

SDS created according to the following Polish regulation: Act of February 25, 2011 on chemical substances and their mixtures (Journal of Laws of 2018, item 143, as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing the European Chemicals Agency (EC) as amended. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labeling and packaging of substances and mixtures, as amended. Regulation of the Minister of Health of 10 August 2012 on the criteria and method of classifying chemical substances and their mixtures (Journal of Laws of 2012, item 1018). Regulation of the Minister of Health of 20 April 2012 on labeling packaging of hazardous substances and mixtures and some mixtures (Journal of Laws of 2012, item 445). Regulation of the Minister of Family, Labor and Social Policy of 12 June 2018 on the maximum allowable concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286). Announcement of the Minister of Economy, Labor and Social Policy of August 28, 2003 on the publication of the unified text of the Ordinance of the Minister of Labor and Social Policy on general health and safety at work regulations (Journal of Laws of 2003, No. 169, item 1650). Regulation of the Minister of Health of 30 December 2004 on occupational safety and health related to the presence of chemical agents in the workplace (Journal of Laws of 2005, No. 11, item 86). Act of December 14, 2012 on waste (Journal of Laws of 2013, item 21) Regulation of the Minister of Health of December 30, 2004 on occupational health and safety related to the presence of chemical agents in the workplace (Journal U. of 2005, No. 11, item 86). Waste Act of December 14, 2012 (Journal of Laws of 2013, item 21). Act of 13 June 2013 on the management of packaging and packaging waste, Journal of Laws 2013, item 888). Government statement of September 24, 2002 - European Agreement on the International Carriage of Dangerous Goods by Road (ADR) (Journal of Laws No. 194, item 1629 and Journal of Laws of 2003, No. 207, item 2013 and 2014).

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

**Authorisations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**DIRECTIVE (EU) 2021/1187 on the marketing and use of explosives precursors**

Not applicable

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
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piperidine - 110-89-4	75.	
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#### Persistent Organic Pollutants

Not applicable

#### Dangerous substance category per Seveso Directive (2012/18/EU)

H2 - ACUTE TOXIC

P5a - FLAMMABLE LIQUIDS

P5b - FLAMMABLE LIQUIDS

P5c - FLAMMABLE LIQUIDS

#### Named dangerous substances per Seveso Directive (2012/18/EU)

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
piperidine - 110-89-4	50	200

#### Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

#### International Inventories

**TSCA**

Complies

**DSL/NDSL**

Contact supplier for inventory compliance status

**EINECS/ELINCS**

Contact supplier for inventory compliance status

**ENCS**

Contact supplier for inventory compliance status

**IECSC**

Contact supplier for inventory compliance status

**KECL**

Contact supplier for inventory compliance status

**PICCS**

Contact supplier for inventory compliance status

**AIIC**

Contact supplier for inventory compliance status

#### Legend:

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

#### 15.2. Chemical safety assessment

##### Chemical Safety Report

A Chemical Safety Assessment is not required for this substance

## SECTION 16: Other information

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Full text of H-Statements referred to under section 3

H225 - Highly flammable liquid and vapour  
H302 - Harmful if swallowed  
H311 - Toxic in contact with skin  
H314 - Causes severe skin burns and eye damage  
H331 - Toxic if inhaled  
H412 - Harmful to aquatic life with long lasting effects

#### Legend

SVHC: Substances of Very High Concern for Authorisation:

#### Legend Section 8: Exposure controls/personal protection

TWA                      TWA (time-weighted average)                      STEL                      STEL (Short Term Exposure Limit)  
Ceiling                      Maximum limit value                      \*                      Skin designation

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - Vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

#### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Food Safety Authority (EFSA)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme  
Organisation for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision date** N/A

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

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**Disclaimer**

The Final Document will be available at the time of consignment.

# Can vary as per company.

**End of Safety Data Sheet**