

# SAFETY DATA SHEET



HG silicon seal remover

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

### 1.1 Product identifier

**Product name** : HG silicon seal remover  
**Product code** : 290  
**Product description** : Cleaner.  
**Product type** : Liquid.  
**Other means of identification** : Not available.

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

Not applicable.

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

HG International BV  
Damsluisweg 70 - NL-1332 EJ - Almere - The Netherlands  
Tel.: +31 (0)36 54 94 700 - Fax: +31 (0)36 54 94 744  
Email: info@hg.eu - Internet: www.hg.eu

**e-mail address of person responsible for this SDS** : safety@hg.eu

#### National contact

HG Hagesan UK Ltd.  
Unit 2  
Lanswood Park  
Broomfield Road  
Elmstead Market  
Colchester  
Essex  
CO7 7FD  
Tel.: 0044 (0)1206 822744  
Fax: 0044 (0)1206 827019

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : **England and Wales**  
**NHS Direct: 0845 4647**

**Scotland**  
**NHS 24: 08454 24 24 24**

**Republic of Ireland**  
**01 809 2166**

#### Supplier

**Telephone number** : +31 (0)36 54 94 777  
**Hours of operation** : Mo-Fr 9.00-17.00  
**Information limitations** : Only for medical personnel.

**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]**

Flam. Liq. 3, H226

Skin Irrit. 2, H315

Eye Dam. 1, H318

Skin Sens. 1, H317

Repr. 2, H361fd (Fertility and Unborn child)

Aquatic Acute 1, H400

Aquatic Chronic 1, H410

**Classification according to Directive 1999/45/EC [DPD]**

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : R10  
Xi; R38  
R43  
N; R50/53**Physical/chemical hazards** : Flammable.**Human health hazards** : Irritating to skin. May cause sensitisation by skin contact.**Environmental hazards** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See Section 16 for the full text of the R phrases or 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** : Flammable liquid and vapour.  
Causes serious eye damage.  
Causes skin irritation.  
May cause an allergic skin reaction.  
Suspected of damaging fertility. Suspected of damaging the unborn child.  
Very toxic to aquatic life with long lasting effects.**Precautionary statements****General** : If medical advice is needed, have product container or label at hand. Keep out of reach of children.**Prevention** : Wear protective gloves and eye protection.**Response** : IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.**Storage** : Not applicable**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.**Hazardous ingredients** : (R)-p-mentha-1,8-diene  
1-ethylpyrrolidin-2-one**Supplemental label elements** : Not applicable.**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.**Special packaging requirements**

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**SECTION 2: Hazards identification**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Yes, applicable.

**2.3 Other hazards**

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

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

**Substance/mixture** : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
(R)-p-mentha-1,8-diene	EC: 227-813-5 CAS: 5989-27-5 Index: 601-029-00-7	>=75 - <90	R10 Xi; R38 R43 N; R50/53	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 4, H413	[1]
Cellulose, ethyl ether	CAS: 9004-57-3	>=10 - <15	Not classified.		[1]
1-ethylpyrrolidin-2-one	EC: 220-250-6 CAS: 2687-91-4	>=10 - <20	Xn; R22 Xi; R36/37/38	Eye Dam. 1, H318 Repr. 2, H361fd (Fertility and Unborn child) (oral)	[1]
			<b>See Section 16 for the full text of the R-phrases declared above.</b>	<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.

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 or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

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

[5] Substance of equivalent concern

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** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. 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.

**SECTION 4: First aid measures**

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Remove dentures if any. Stop if the exposed person feels sick as vomiting may be dangerous. 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****Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : May cause burns to mouth, throat and stomach.

**Over-exposure signs/symptoms**

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

**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** : Flammable liquid and vapour. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. 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 thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

**5.3 Advice for firefighters**

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

**6.3 Methods and materials for containment and cleaning up**

**Small spill** : 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.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the

**SECTION 6: Accidental release measures**

same hazard as the spilled product.

**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**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**7.1 Precautions for safe handling**

**Protective measures**

- : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene**

- : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

**Seveso II Directive - Reporting thresholds (in tonnes)**

**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b	5000	50000
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1	100	200
C6: Flammable (R10)	5000	50000
C9i: Very toxic for the environment	100	200

**7.3 Specific end use(s)**

**Recommendations**

- : Not available.

**Industrial sector specific solutions**

- : Not available.

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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**8.1 Control parameters****Occupational exposure limits**

No exposure limit value known.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

No DNELs/DMELs available.

**PNECs**

No PNECs available

**8.2 Exposure controls**

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Not applicable

**Skin protection**

**Hand protection** : Not applicable

**Body protection** : 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** : Not applicable

**Respiratory protection** : Not applicable

**Thermal hazards** : Not applicable

**Environmental exposure controls** : Not applicable

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

<b>Physical state</b>	: Liquid. [Viscous liquid.]
<b>Colour</b>	: Colourless.
<b>Odour</b>	: Lemon-like.
<b>Odour threshold</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	: Not available.
<b>Flash point</b>	: Closed cup: 49°C
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Burning time</b>	: Not applicable.
<b>Burning rate</b>	: Not applicable.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: 0,85
<b>Solubility(ies)</b>	: Not available.
<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/ water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

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

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
(R)-p-mentha-1,8-diene	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	4400 mg/kg	-
Cellulose, ethyl ether	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	>5 g/kg	-
1-ethylpyrrolidin-2-one	LD50 Oral	Rat	1350 mg/kg	-

**Conclusion/Summary** : Not available.

**Acute toxicity estimates**

Not available.

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Cellulose, ethyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
1-ethylpyrrolidin-2-one	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-

**Conclusion/Summary** : Not available.

**Sensitisation**

**Conclusion/Summary** : Not available.

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : May cause burns to mouth, throat and stomach.

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

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

**SECTION 11: Toxicological information**

- Inhalation** : Adverse symptoms may include the following:  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced foetal weight  
increase in foetal deaths  
skeletal malformations

Delayed and immediate effects and also 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

Not available.

**Conclusion/Summary** : Not available.

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

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

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

**Teratogenicity** : Suspected of damaging the unborn child.

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

**Fertility effects** : Suspected of damaging fertility.

**Other information** : Not available.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
(R)-p-mentha-1,8-diene	Acute EC50 69600 µg/l Fresh water	Daphnia - Daphnia pulex - Neonate	48 hours
	Acute LC50 35000 µg/l Fresh water	Fish - Oncorhynchus mykiss	4 days

**Conclusion/Summary** : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**12.2 Persistence and degradability**

**Conclusion/Summary** : Not available.

**12.3 Bioaccumulative potential**

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**SECTION 12: Ecological information**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Cellulose, ethyl ether 1-ethylpyrrolidin-2-one	5,5 -0,04	- -	high low

**12.4 Mobility in soil**

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

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

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

**SECTION 13: Disposal considerations**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**13.1 Waste treatment methods**

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	2319	2319	2319	2319
<b>14.2 UN proper shipping name</b>	LDT QTY, TERPENE HYDROCARBONS, N. O.S. of class 3", UN 2319, PG III, (+49°C c. c.), (D-Limonene, 80%, mixture)	LDT QTY, TERPENE HYDROCARBONS, N. O.S. of class 3", UN 2319, PG III, (+49°C c. c.), (D-Limonene, 80%, mixture)	LDT QTY, TERPENE HYDROCARBONS, N. O.S. of class 3", UN 2319, PG III, (+49°C c. c.), (D-Limonene, 80%, mixture) . Marine pollutant	LDT QTY, TERPENE HYDROCARBONS, N. O.S. of class 3", UN 2319, PG III, (+49°C c. c.), (D-Limonene, 80%, mixture)

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**SECTION 14: Transport information**

<b>14.3 Transport hazard class(es)</b>	3 	3 	3  	3 
<b>14.4 Packing group</b>	III	III	III	III
<b>14.5 Environmental hazards</b>	No.	Yes.	Yes.	No.
<b>Additional information</b>	<b>Hazard identification number</b> 30	The product is only regulated as an environmentally hazardous substance when transported in tank vessels.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Emergency schedules (EmS)</b> F-E, S-D	The environmentally hazardous substance mark may appear if required by other transportation regulations.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : 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**

**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** : Not applicable.

**Other EU regulations**

**Europe inventory** : Not determined.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
1-ethylpyrrolidin-2-one	-	-	Repr. 2, H361d (Unborn child) (oral)	Repr. 2, H361f (Fertility) (oral)

**Seveso II Directive**

This product is controlled under the Seveso II Directive.

**Danger criteria**

**Category**

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b  
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1  
C6: Flammable (R10)  
C9i: Very toxic for the environment

**Contains (Regulation (EC) No 648/2004)** : limonene

**SECTION 15: Regulatory information**

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

**SECTION 16: Other information**

✓ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Liq. 3, H226	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Dam. 1, H318	Expert judgment
Skin Sens. 1, H317	Expert judgment
Repr. 2, H361fd (Fertility and Unborn child)	Expert judgment
Aquatic Acute 1, H400	Expert judgment
Aquatic Chronic 1, H410	Expert judgment

**Full text of abbreviated H statements** : H226 Flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
 (Fertility and Unborn child)  
 H361fd Suspected of damaging fertility if swallowed. Suspected of damaging the unborn child if swallowed.  
 (Fertility and Unborn child)  
 (oral)  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H413 May cause long lasting harmful effects to aquatic life.

**Full text of classifications [CLP/GHS]** : Aquatic Acute 1, H400 ACUTE AQUATIC HAZARD - Category 1  
 Aquatic Chronic 1, H410 LONG-TERM AQUATIC HAZARD - Category 1  
 Aquatic Chronic 4, H413 LONG-TERM AQUATIC HAZARD - Category 4  
 Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3  
 Repr. 2, H361fd (Fertility and Unborn child) TOXIC TO REPRODUCTION (Fertility and Unborn child) - Category 2  
 Repr. 2, H361fd (Fertility and Unborn child) (oral) TOXIC TO REPRODUCTION (Fertility and Unborn child) (oral) - Category 2  
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2  
 Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1

**SECTION 16: Other information**

**Full text of abbreviated R phrases** : R10- Flammable.  
 R22- Harmful if swallowed.  
 R38- Irritating to skin.  
 R36/37/38- Irritating to eyes, respiratory system and skin.  
 R43- May cause sensitisation by skin contact.  
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Full text of classifications [DSD/DPD]** : Xn - Harmful  
 Xi - Irritant  
 N - Dangerous for the environment

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