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
This SDS is for generic information purposes and does not reflect required country specific information for OEL

OPN Mold- and Brake Disc Corrosion Protection
Supercedes Date: 07.06.2024

Revision date 10.06.2024
Revision Number 1.01

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

1.1. Product identifier

Product Name **OPN Mold- and Brake Disc Corrosion Protection**

Unique formula identifier (UFI) 99QN-HSSK-TODE-XU60
Other means of identification
Article number 63456
Tariff No 34031910

Pure substance/mixture Mixture

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

Recommended use Corrosion inhibitor

Uses advised against Aerosol for entertainment or decoration purposes.

Reason why uses advised against Restricted substance per REACH Annex XVII

1.3. Details of the supplier of the safety data sheet

OPN-CHEMIE GmbH
In der Au 14
57290 Neunkirchen

www.opn-chemie.de

Information Providing Area:
Competent person responsible for the safty data sheet:Barbara Angelika Gros-Petri
e-mail (competent person):baerbel.petri@opn-chemie.de

1.4 Emergency telephone number

24h Emergency information service Poison Information Center Freiburg +49(0)761/19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Aspiration hazard	Category 1 - (H304)
Skin corrosion/irritation	Category 2 - (H315)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Category 3 Narcotic effects	
Chronic aquatic toxicity	Category 2 - (H411)
Aerosols	Category 1 - (H222, H229)

2.2. Label elements

Contains Pentane; Hydrocarbons, C6, isoalkanes, <5% n-hexane; Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane; Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

Signal word
Danger

Hazard statements
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects
H222 - Extremely flammable aerosol
H229 - Pressurised container: May burst if heated

Precautionary Statements - EU (§28, 1272/2008)
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Do not pierce or burn, even after use
P261 - Avoid breathing mist/vapours/spray
P264 - Wash hands and face thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing and eye/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
P312 - Call a POISON CENTER or doctor if you feel unwell
P391 - Collect spillage
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F
P501 - Dispose of contents/ container to an approved waste disposal plant

Special provisions concerning the labelling of certain mixtures
For professional users only.

Additional information
This product is exempt from the requirement for a child resistant fastening and tactile warning of danger, as it is an aspiration hazard, placed on the market in the form of an aerosol or in a container with a sealed spray attachment.

2.3. Other hazards

In case of insufficient ventilation and/or through use, the formation of a explosive/highly flammable mixture is possible.

PBT & vPvB
The components in this formulation do not meet the criteria for classification as PBT or vPvB.

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

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	EC No (EU Index No).	CAS No..	Classification according to Regulation (EC) No.	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	REACH registration number

			1272/2008 [CLP]				
Butane 20 - <25 %	203-448-7 (601-004-00-0)	106-97-8	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119474691-32-XXXX
Pentane 10 - <20 %	203-692-4 (601-006-00-1)	109-66-0	STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) Flam. Liq. 2 (H225) (EUH066) [B]	-	-	-	01-2119459286-30-XXXX
Isobutane 10 - <20 %	200-857-2 (601-004-00-0)	75-28-5	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	01-2119485395-27-XXXX
Hydrocarbons, C6, isoalkanes, <5% n-hexane 10 - <20 %	931-254-9	64742-49-0	STOT SE 3 (H336) Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411) Flam Liq. 2 (H225) (EUH066)	-	-	-	01-2119484651-34-XXXX
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane 5 - <10 %	926-605-8	RR-100223-9	STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) Flam. Liq. 2 (H225) (EUH066)	-	-	-	01-2119486291-36-xxxx
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics 1 - <2.5 %	927-241-2	RR-100244-4	STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226) (EUH066)	-	-	-	01-2119471843-32-XXXX

Substances identified by a number starting “RR-“ in the CAS-field are substances for which the CAS# is not adopted in EU and we use an internal numbering system to track within our SDS software

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

Classification according to Regulation (EC) No. 1272/2008 [CLP] - Notes
[B] - Substance with a Community workplace exposure limit

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 (ATEmix) for classifying a mixture based on its components

Chemical name	EC No (EU Index No)	CAS No.	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
Butane	203-448-7 (601-004-00-0)	106-97-8	-	-	-	-	-
Pentane	203-692-4 (601-006-00-1)	109-66-0	-	-	-	-	-
Isobutane	200-857-2 (601-004-00-0)	75-28-5	-	-	-	-	-
Hydrocarbons, C6, isoalkanes, <5% n-hexane	931-254-9	64742-49-0	16750	3350	-	-	-
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	926-605-8	RR-100223-9	-	3400	-	-	-

Chemical name	EC No (EU Index No)	CAS No.	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
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	927-241-2	RR-100244-4	-	-	-	-	-

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

Notes
See section 16 for more information

Chemical name	Notes
Butane - 106-97-8	C,U
Pentane - 109-66-0	C
Isobutane - 75-28-5	C,U
Hydrocarbons, C6, isoalkanes, <5% n-hexane - 64742-49-0	P
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics - RR-100244-4	P

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. Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed pulmonary edema may occur.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical attention.

Self-protection of the first aider Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8). Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapour

concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Effects of Exposure No information available.

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

Note to doctors Because of the danger of aspiration, emesis or gastric lavage should not be used unless the risk is justified by the presence of additional toxic substances.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Dry chemical, CO2, water spray or alcohol-resistant foam.

Unsuitable extinguishing media Full water jet.

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. Cylinders may rupture under extreme heat. Damaged cylinders should be handled only by specialists. Containers may explode when heated.

Hazardous combustion products Carbon oxides. Fumes. Smoke production.

5.3. Advice for firefighters

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. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharges. Avoid breathing dust/fume/gas/mist/vapours/spray.

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

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.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. 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. Flood with water to complete polymerization and scrape off floor.

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 Use personal protection equipment. Ensure adequate ventilation. Take precautionary measures against static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Avoid contact with skin, eyes or clothing. Do not puncture or incinerate cans. Contents under pressure. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

General hygiene considerations Do not eat, drink or smoke when using this product. 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. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from sunlight. Protect from sunlight. Store in a well-ventilated place. Keep at a temperature not exceeding 50 °C. Keep away from open flames, hot surfaces and sources of ignition. Store in accordance with the particular national regulations. Do not contaminate food or feed stuffs. Store locked up.

7.3. Specific end use(s)

Specific use(s)
Corrosion inhibitor.

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

Other information Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Only European Community Occupational Exposure Limits will be shown in this document. Please refer to regional SDS for further information.

Chemical name	European Union
Pentane 109-66-0	TWA: 1000 ppm TWA: 3000 mg/m³

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)			
Hydrocarbons, C6, isoalkanes, <5% n-hexane (64742-49-0)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Systemic health effects Long term	Dermal	13964 mg/kg bw/d	
worker	Inhalation	2085 mg/m³	

Long term Systemic health effects			

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane (RR-100223-9)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Dermal	13 964 mg/kg bw/d	
worker Long term Systemic health effects	Inhalation	5 306 mg/m³	

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (RR-100244-4)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
worker Long term Systemic health effects	Dermal	77 mg/kg bw/d	
worker Long term Systemic health effects	Inhalation	871 mg/m³	

Derived No Effect Level (DNEL)			
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane (RR-100223-9)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Dermal	1 377 mg/kg bw/d	
Consumer Long term Systemic health effects	Inhalation	1 131 mg/m³	
Consumer Long term Systemic health effects	Oral	1 301 mg/kg bw/d	

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (RR-100244-4)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Dermal	46 mg/kg bw/d	
Consumer Long term Systemic health effects	Inhalation	185 mg/m³	
Consumer Long term Systemic health effects	Oral	46 mg/kg bw/d	

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Vapours/aerosols must be exhausted directly at the point of origin.

Personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles). Eye protection must conform to standard EN 166.
Hand protection	Wear suitable gloves. Glove thickness > 0.7mm. Butyl rubber. Nitrile rubber. The breakthrough time for the mentioned glove material is in general greater than 480 min. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374
Skin and body protection	Wear appropriate personal protective clothing to prevent skin contact.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Wear a respirator conforming to EN 140 with Type A filter or better.
Recommended filter type:	Organic gases and vapours filter conforming to EN 14387.

Environmental exposure controls Do not allow uncontrolled discharge of product into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aerosol
Colour	Colourless
Odour	Characteristic.

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	Not applicable, Aerosol .	Not applicable, Aerosol
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	Not applicable, Aerosol .	Not applicable, Aerosol
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	Not applicable. Insoluble in water.
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	
Water solubility	No data available.	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Density	0.5898 g/cm³	
Relative vapour density	No data available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

Solid content (%)	No information available
VOC content	No data available

9.2.1. Information with regards to physical hazard classes
Not applicable

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 Heating causes rise in pressure with risk of bursting.

10.4. Conditions to avoid

Conditions to avoid Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Strong oxidising agents. Incompatible with oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal use conditions. Stable under recommended storage conditions.

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 Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Eye contact May cause irritation.

Skin contact Causes skin irritation. (based on components).

Ingestion Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	>2000 mg/kg
ATEmix (dermal)	>2000 mg/kg
ATEmix (inhalation-gas)	>20000 ppm
ATEmix (inhalation-dust/mist)	>5 mg/l
ATEmix (inhalation-vapour)	>20 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Butane	-	-	=658 g/m³ (Rattus) 4 h
Pentane	>2000 mg/kg (Rattus)	= 3000 mg/kg (Oryctolagus cuniculus)	=364 g/m³ (Rattus) 4 h
Isobutane	-	-	=658 mg/L (Rattus) 4 h
Hydrocarbons, C6, isoalkanes, <5% n-hexane	>16750 mg/Kg (Rattus)	>3350 mg/Kg (Oryctolagus cuniculus) OECD 402	259354 mg/m³ (vapour) (rat OECD 403)
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	LD50 >16.5 g/Kg (Rattus) (OECD Guideline 201)	LD50 >3.35 g/Kg (Oryctolagus cuniculus) (OECD 402)	LC50 (4h) =73680 ppm (Vapour - Rat)
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	LD50 >5000 mg/kg (Rattus)	LD50 >5000 mg/Kg (Oryctolagus cuniculus)	LC50 >5000 mg/m³ (inhalation) (Rattus) 8hr

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 skin irritation.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (RR-100244-4)					
Method	**Species**	**Exposure route**	**Effective dose**	**Exposure time**	**Results**
OECD Test No. 404: Acute Dermal Irritation/Corrosion					Mild skin irritant

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (RR-100244-4)

Method	**Species**	**Exposure route**	**Effective dose**	**Exposure time**	**Results**
OECD Test No. 405: Acute Eye Irritation/Corrosion					Mild eye irritation

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard May be fatal if swallowed and enters airways.

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 Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
Pentane 109-66-0	-	LC50: =11.59mg/L (96h, Pimephales promelas) LC50: =9.87mg/L (96h, Oncorhynchus mykiss) LC50: =9.99mg/L (96h, Lepomis macrochirus)	-	EC50: =9.74mg/L (48h, Daphnia magna)		
Hydrocarbons, C6, isoalkanes, <5% n-hexane 64742-49-0	EL50 (72h) = 13.6 mg/l (Pseudokirchneriella subcapitata)	LL50 (96h) = 18.27 mg/l (Oncorhynchus mykiss)	-	EL50 (48h)= 31.9 mg/l (Daphnia magna)		
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane RR-100223-9	EL50 (72h) = 55 mg/l (Pseudokirchneriella subcapitata)	LL50 (96h)=12mg/L (Oncorhynchus mykiss)Semi-static OECD 203	-	EL50 (48h) = 3 mg/l (Daphnia magna)		
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics RR-100244-4	-	LL50 (48h) >100 mg/L	-	EL50 (48) <46 mg/L (Aquatic Invertebrates)		

12.2. Persistence and degradability

Persistence and degradability No information available.

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane (RR-100223-9)

Method	Exposure time	Value	Results
	28 days	biodegradation	98 % Readily biodegradable

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics (RR-100244-4)

Method	Exposure time	Value	Results
OECD Test No. 301F: Ready Biodegradability: Manometric Respirometry Test (TG 301 F)	28 days	biodegradation	>60 % Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Butane	2.31
Pentane	3.45
Isobutane	2.8
Hydrocarbons, C6, isoalkanes, <5% n-hexane	3.6

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 does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
Butane	The substance is not PBT / vPvB
Pentane	The substance is not PBT / vPvB
Isobutane	The substance is not PBT / vPvB
Hydrocarbons, C6, isoalkanes, <5% n-hexane	The substance is not PBT / vPvB
Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	PBT assessment does not apply

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.

European Waste Catalogue 16 05 04* gases in pressure containers (including halons) containing dangerous substances
15 01 04 metallic packaging

Other information Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1 UN number or ID number	UN1950
14.2 UN proper shipping name	Aerosols
14.3 Transport hazard class(es)	2
Labels	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols, 2, (D), Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	190, 327, 344, 625
Classification code	5F
Tunnel restriction code	(D)
Limited quantity (LQ)	1 L

IMDG

14.1 UN number or ID number	UN1950
14.2 UN proper shipping name	Aerosols
14.3 Transport hazard class(es)	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols (Pentane), 2.1, (0°C c.c.), Marine pollutant
14.5 Marine pollutant	P
14.6 Special precautions for user	
Special Provisions	63,190, 277, 327, 344, 381, 959
Limited Quantity (LQ)	See SP277
EmS-No.	F-D, S-U
14.7 Maritime transport in bulk according to IMO instruments	
Transport in bulk according to Annex II of MARPOL and the IBC Code	Not applicable

Air transport (ICAO-TI / IATA-DGR)

14.1 UN number or ID number	UN1950
14.2 UN proper shipping name	Aerosols, flammable
14.3 Transport hazard class(es)	2.1
14.4 Packing group	Not regulated
Description	UN1950, Aerosols, flammable, 2.1
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	A145, A167, A802
Limited quantity (LQ)	30 kg G
ERG Code	10L

Section 15: REGULATORY INFORMATION

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

European Union

Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACh) Regulation (EC 1907/2006)

SVHC: Substances of Very High Concern for Authorisation:
This product does not contain candidate substances of very high concern at a concentration >=0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

EU-REACH (1907/2006) - Annex XVII - Substances subject to Restriction

This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Substance subject to authorisation per REACH Annex XIV
This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

Export Notification requirements
This product does not contain substances which are regulated pursuant to Regulation (EC) No. 649/2012 of the European parliament and of the council concerning the export and import of dangerous chemicals above the level that triggers a labeling obligation under Regulation (EC) No 1272/2008. Therefore this product is not subject to prior informed consent notification.

Dangerous substance category per Seveso Directive (2012/18/EU)
P3a - FLAMMABLE AEROSOLS
E2 - Hazardous to the Aquatic Environment in Category Chronic 2

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

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Hydrocarbons, C6, isoalkanes, <5% n-hexane - 64742-49-0		25000

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not applicable

Persistent Organic Pollutants
Not applicable

REGULATION (EU) 2019/1148 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on the marketing and use of explosives precursors
Not applicable

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Butane 106-97-8	RG 84
Pentane 109-66-0	RG 84
Isobutane 75-28-5	RG 84
Hydrocarbons, C6, isoalkanes, <5% n-hexane 64742-49-0	RG 84

Germany

Ordinance on Industrial Safety and Health - Germany - BetrSichV
No flammable liquids in accordance with BetrSichV

Water hazard class (WGK) obviously hazardous to water (WGK 2)

TRGS - 510 Storage Class Storage Class 2B : Aerosols

Netherlands

List of Carcinogenic, mutagenic and reproductive toxin substances in accordance with Inspectorate SZW (Netherlands)
Not Listed

Denmark
Registration number(s) (P-no.) No information available
Norway
Registration number(s) (PRN-no.) No information available

15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out by the Reach registrants for substances registered at >10 tpa. No Chemical Safety Assessment has been carried out for this mixture.

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
H226 - Flammable liquid and vapour
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic to aquatic life with long lasting effects
H412 - Harmful to aquatic life with long lasting effects

Notes relating to the identification, classification and labelling of substances
Note C: Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers
Note P: The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes.
Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply
Note U (Table 3): When put on the market gases have to be classified as ‘Gases under pressure’, in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case. The following codes are assigned:
Press. Gas (Comp.)
Press. Gas (Liq.)
Press. Gas (Ref. Liq.)
Press. Gas (Diss.)
Aerosols shall not be classified as gases under pressure (See Annex I, Part 2, Section 2.3.2.1, Note 2)

SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT RE: Specific target organ toxicity - Repeated exposure
STOT SE: Specific target organ toxicity - Single exposure
EWC: European Waste Catalogue
LOW: List of Wastes (see http://ec.europa.eu/environment/waste/framework/list.htm)
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA: International Air Transport Association
ICAO: ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG: International Maritime Dangerous Goods
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

Legend SECTION 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
AGW	Occupational exposure limit value	BGW	Biological limit value
Ceiling	Maximum limit value	Sk*	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
Flammable aerosol	On basis of test data

Key literature references and sources for data used to compile the SDS
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
NIOSH (National Institute for Occupational Safety and Health)
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

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Training Advice No information available

Further information No information available

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Regulation (EC) No. 1907/2006 as amended by Regulation (EU) No. 2020/878, and Regulation (EC) No. 1272/2008

Disclaimer
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End of Safety Data Sheet