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-Start Up Spray
Supercedes date 06.11.2023

Revision date 21.08.2025
Revision Number 1.01

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

1.1. Product identifier

Product Name OPN-Start Up Spray
Article number 61055
Unique formula identifier (UFI) RV2F-A5FM-V005-0WQM

Other means of identification

Pure substance/mixture Mixture

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

Recommended use Chemical intermediate

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

OPN-CHEMIE GmbH
In der Au 14
57290 Neunkirchen / Germany
www.opn-chemie.de

Further information obtainable from
Barbara Angelika Gros-Petri
E-Mail (competent person) baerbel.petri@opn-chemie.de

1.4. Emergency telephone number

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]

Aerosols	Category 1 - (H222, H229)
Eye irritation	Category 2 - (H319)
Specific target organ toxicity (single exposure)	Category 3 - (H336)
Category 3 Target organ effects: Narcotic effects.	
Aspiration hazard	Category 1 - (H304)
Hazardous to the aquatic environment - chronic	Category 3 - (H412)

2.2. Label elements

Hazardous ingredients for labelling
Contains: Acetone; n-Pentane

Signal word
Danger

Hazard statements
H222 - Extremely flammable aerosol.
H229 - Pressurised container: May burst if heated.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements - EU (§28, 1272/2008)
P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
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 dust/fume/gas/mist/vapours/spray.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves and eye/face protection.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P501 - Dispose of contents / container in accordance with national regulations of the disposal.

EU Specific Hazard Statements
EUH066 - Repeated exposure may cause skin dryness or cracking.

Additional labelling requirements
Buildup of explosive mixtures possible without sufficient ventilation.

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	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)	Notes
Acetone 67-64-1	>25 - <40	01-2119471330-49-XXXX	200-662-2 (606-001-00-8)	Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225) (EUH066)	-	-	-	-
n-Pentane 109-66-0	20 - <25	01-2119459286-30-XXXX	203-692-4 (601-006-00-1)	Flam. Liq. 2 (H225) Asp. Tox. 1 (H304) STOT SE 3 (H336) Aquatic Chronic 2 (H411)	-	-	-	C
Butane 106-97-8	10 - <20	01-2119474691-32-XXXX	203-448-7 (601-004-00-0)	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	C,U
Isobutane 75-28-5	5 - <10	01-2119485395-27-XXXX	200-857-2 (601-004-00-0)	Flam. Gas 1 (H220) Press. Gas (H280)	-	-	-	C,U

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 U - 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).

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 (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
Acetone	200-662-2 (606-001-00-8)	67-64-1	5800	-	-	-	-
n-Pentane	203-692-4 (601-006-00-1)	109-66-0	-	-	-	-	-
Butane	203-448-7 (601-004-00-0)	106-97-8	-	-	-	-	-
Isobutane	200-857-2 (601-004-00-0)	75-28-5	-	-	-	-	-

This product does not contain candidate substances of very high concern at a concentration >=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. 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. 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 skin with soap and water. In the case of skin irritation or allergic reactions see a doctor.
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. May cause redness and tearing of the eyes. Burning sensation. 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. Carbon dioxide (CO2). Water spray.
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.

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. 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. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Use spark-proof tools and explosion-proof equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Keep in an area equipped with sprinklers. Do not puncture or incinerate cans. Contents under pressure. In case of rupture. Avoid breathing vapours or mists. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment.

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. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Protect from sunlight. 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. Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals. Store locked up. Keep out of the reach of children. Store away from other materials. Keep/store only in original container. Store in a dry place. Store in a closed container.

7.3. Specific end use(s)

Specific use(s)
Chemical intermediate.

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
Acetone 67-64-1	TWA: 500 ppm TWA: 1210 mg/m³
n-Pentane 109-66-0	TWA: 1000 ppm TWA: 3000 mg/m³

Derived No Effect Level (DNEL) No information available

Derived No Effect Level (DNEL)			
Acetone (67-64-1)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Long term Systemic health effects worker	Dermal	186 mg/kg bw/d	
Short term Local health effects worker	Inhalation	2420 mg/m³	
Long term Systemic health effects worker	Inhalation	1210 mg/m³	

Derived No Effect Level (DNEL)			
Acetone (67-64-1)			
Type	Exposure route	Derived No Effect Level (DNEL)	Safety factor
Consumer Long term Systemic health effects	Inhalation	200 mg/m³	
Consumer Long term Systemic health effects	Dermal	62 mg/kg bw/d	
Consumer Long term Systemic health effects	Oral	62 mg/kg bw/d	

Predicted No Effect Concentration (PNEC) No information available.

Predicted No Effect Concentration (PNEC)	
Acetone (67-64-1)	
Environmental compartment	Predicted No Effect Concentration (PNEC)
Freshwater	10.6 mg/l
Freshwater - intermittent	21 mg/l
Marine water	1.06 mg/l
Microorganisms in sewage treatment	100 mg/l
Freshwater sediment	30.4 mg/kg dry weight
Marine water	3.04 mg/kg dry weight
Soil	29.5 mg/kg dry weight

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. Provide adequate ventilation.

Recommended filter type: Organic gases and vapours filter conforming to EN 14387. Wear a respirator conforming to EN 140 with Type A filter or better.

Environmental exposure controls No information available.

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
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	No data available	Not applicable, Aerosol
Autoignition temperature	285 °C	
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	Insoluble in water.	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	0.60 - 0.68 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 (%)	0
VOC content	approx 640 g/L

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 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. Specific test data for the substance or mixture is not available. 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 Specific test data for the substance or mixture is not available. May cause irritation. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.

Skin contact Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.

Ingestion Specific test data for the substance or mixture is not available. 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. 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
Acetone	=5800 mg/kg (Rattus) 3000 mg/Kg (mouse)	>15800 mg/Kg (Rattus)	=79 mg/l(Rattus) 4 h
n-Pentane	> 2000 mg/kg (Rat)	= 3000 mg/kg (Rabbit)	= 364 g/m^3 (Rat) 4 h
Butane	-	-	=658 g/m^3 (Rattus) 4 h
Isobutane	-	-	=658 mg/L (Rattus) 4 h

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

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye irritation.

Acetone (67-64-1)					
Method	**Species**	**Exposure route**	**Effective dose**	**Exposure time**	**Results**
OECD Test No. 405: Acute Eye Irritation/Corrosion	Rabbit	eye			irritant

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

Acetone (67-64-1)			
Method	Species	Exposure route	Results
GPMT - Guinea pig maximisation test	Guinea pig	Dermal	Not a skin sensitiser

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.

Acetone (67-64-1)					
Method	**Species**	**Exposure route**	**Effective dose**	**Exposure time**	**Results**
Experiences made in practice					Narcotic effects

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

Acetone (67-64-1)					
Method	**Species**	**Exposure route**	**Effective dose**	**Exposure time**	**Results**
OECD Test No. 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat	Oral	200-3400 mg/kg bw/d	91 days	No Observed Adverse Effect Level LOAEL 1700 mg/kg bw/d
Not specified	Rat	Inhalation	19000 ppm	14, 28, 56 days	NOAEC 19000 ppm No Observed Adverse Effect Level

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 Harmful to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea	M-Factor	M-Factor (long-term)
Acetone 67-64-1	-	LC50 96 h 4.74 - 6.33 mL/L (Oncorhynchus mykiss)	EC50 = 14500 mg/L 15 min	EC50 48 h 10294 - 17704 mg/L (Daphnia magna Static)		
n-Pentane 109-66-0	-	LC50: =9.87mg/L (96h, Oncorhynchus mykiss) LC50: =11.59mg/L (96h, Pimephales promelas) LC50: =9.99mg/L (96h, Lepomis macrochirus)	-	EC50: =9.74mg/L (48h, Daphnia magna)		

12.2. Persistence and degradability

Persistence and degradability No information available.

Acetone (67-64-1)			
Method	**Exposure time**	**Value**	**Results**
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	biodegradation	91 % Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Acetone	-0.24
n-Pentane	3.45
Butane	2.31
Isobutane	2.8

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
Acetone	The substance is not PBT / vPvB
n-Pentane	The substance is not PBT / vPvB
Butane	The substance is not PBT / vPvB
Isobutane	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.
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)
14.5 Environmental hazards	No
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, 2.1
14.5 Marine pollutant	NP
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	No

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

Ozone-depleting substances (ODS) Regulation (EU) 2024/590
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
This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point. This product contains:

Chemical name	Reporting of suspicious transactions, disappearances and thefts	Restricted	Registration
Acetone - 67-64-1	Regulated		

National regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Acetone 67-64-1	RG 84
n-Pentane 109-66-0	RG 84
Butane 106-97-8	RG 84
Isobutane 75-28-5	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
Young people under the age of 18 may not professionally use or be exposed to the product. However, young people over the age of 15 are exempt from this rule if the product is included as a necessary part of an education

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 any hazard and/or precautionary statements referred to under Sections 2-15
H220 - Extremely flammable gas
H225 - Highly flammable liquid and vapour
H280 - Contains gas under pressure; may explode if heated
H304 - May be fatal if swallowed and enters airways
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness
H411 - Toxic 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 U - 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
Chronic aquatic toxicity	Calculation method
Acute 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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Revision Note SDS sections updated 1 2

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