SAFETY DATA SHEET

SOLKATHERM® SES 36

Revision Date 10/26/2021

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

1.1 Product identifier

- Trade name: SOLKATHERM® SES 36
- Chemical name: 1,1,1,3,3-Pentafluorobutane (= HFC-365mfc) / 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. (= Galden ® HT55)

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

Uses of the Substance / Mixture

- Heat transfer medium
- Refrigerant
- Solvent

1.3 Details of the supplier of the safety data sheet

Company

SOLVAY FLUORIDES, LLC
3737 Buffalo Speedway,
Suite 800,
Houston, TX 77098
USA
Tel: 800-515-6065

service chimie
5 place de l'Eglise
74400 Saint Thibault des Vignes
France

+33 (0) 164 308 922
+33 (0) 164 308 749
hse@service-chimie.fr
www.service-chimie.fr

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): +1-800-424-9300 within the United States and Canada, or +1-703-527-3887 for international collect calls.

Disclaimer

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

Simple Asphyxiant	May displace oxygen and cause rapid suffocation.

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

Signal Word
- Warning

Hazard Statements
- May displace oxygen and cause rapid suffocation.

2.3 Other hazards which do not result in classification

- H413: May cause long lasting harmful effects to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Chemical name 1,1,1,3,3-Pentafluorobutane (= HFC-365mfc) / 1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd. (= Galden ® HT55)

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Butane, 1,1,1,3,3-pentafluoro-	406-58-6	
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	161075-00-9	30 - 40

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Non Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
1-Propene, 1,1,2,3,3,3-hexafluoro-, oxidized, polymd.	69991-67-9	35

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Remove to fresh air.
- Oxygen or artificial respiration if needed.
- If symptoms persist, call a physician.

In case of skin contact

- Wash off with soap and water.
- If symptoms persist, call a physician.

In case of eye contact

- Rinse thoroughly with plenty of water, also under the eyelids.
- If eye irritation persists, consult a specialist.

In case of ingestion

- Clean mouth with water and drink afterwards plenty of water.
- If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation

Symptoms

- narcosis

- At high concentrations:
- Asphyxia

In case of skin contact

Effects
- Prolonged skin contact may defat the skin and produce dermatitis.

In case of eye contact

Effects
- slight irritation

In case of ingestion

Effects
- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- When symptoms persist or in all cases of doubt seek medical advice.

SECTION 5: Firefighting measures

Flash point	does not flash
Autoignition temperature	1076 °F (580 °C), 1,1,1,3,3-pentafluorobutane
Flammability / Explosive limit	Lower flammability/explosion limit : 3.90 %(V)
	Upper flammability/explosion limit : 11.70 %(V)

5.1 Extinguishing media

Suitable extinguishing media

- powder
- Foam
- Aqueous film forming foam (AFFF).
- Carbon dioxide (CO2)

Unsuitable extinguishing media

- Water may be ineffective.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting

- The product is not flammable.

- Vapors are heavier than air and may spread along floors.
- Risk of ignition.
- Vapours may form explosive mixtures with air.
- Hazardous decomposition products formed under fire conditions.

Hazardous combustion products:

- Fluorophosgene
- The release of other hazardous decomposition products is possible.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- Wear self-contained breathing apparatus and protective suit.
- Full protective flameproof clothing
- Wear chemical resistant oversuit
- Special protective actions for fire-fighters
- In case of fire, use water spray.
- Keep product and empty container away from heat and sources of ignition.

Further information

- Evacuate personnel to safe areas.
- Keep containers and surroundings cool with water spray.
- Approach from upwind.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Prevent further leakage or spillage if safe to do so.
- Keep away from incompatible products

Advice for emergency responders

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.
- Remove all sources of ignition.
- Wear self-contained breathing apparatus and protective suit.
- Cover the spreading liquid with foam in order to slow down the evaporation.
- Ventilate the area.

6.2 Environmental precautions

- Should not be released into the environment.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and materials for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Prevent product from entering sewage system.
- Keep in properly labeled containers.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Used in closed system
- Use only in well-ventilated areas.
- Keep away from heat and sources of ignition.
- Heating can release vapors which can be ignited.
- To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.
- When transferring from one container to another apply grounding measures and use conductive hose material.
- Preferably transfer by pump or gravity.
- Do not use sparking tools.
- Keep away from incompatible products

Hygiene measures

- Use only in an area equipped with a safety shower.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat, drink or smoke.
- Gloves, overalls and boots have to be double layered (protection against cold temperature).
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Keep tightly closed in a dry, cool and well-ventilated place.
- Keep in a contained area
- Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- Ensure all equipment is electrically grounded before beginning transfer operations.
- Take measures to prevent the build up of electrostatic charge.

- Keep away from:
- Incompatible products

Packaging material

Remarks

- Store in original container.

7.3 Specific end use(s)

- Contact your supplier for additional information

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SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

- no data available

8.2 Exposure controls

Control measures

Engineering measures
- Provide appropriate exhaust ventilation at machinery.
- Apply technical measures to comply with the occupational exposure limits.
- Refer to protective measures listed in sections 7 and 8.

Individual protection measures

Respiratory protection
- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/ national standards.
- In the case of vapor formation use a respirator with an approved filter.
- Recommended Filter type: AX
- Protective equipment only chosen according to specific regulatory requirements after a risk assessment.

Hand protection
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Suitable material
- PVA
- Copolymer VF2-HFP (fluoroelastomer)

Eye protection
- Chemical resistant goggles must be worn.

Skin and body protection
- Wear suitable protective clothing, gloves and eye/face protection.

Hygiene measures
- Use only in an area equipped with a safety shower.
- Eye wash bottles or eye wash stations in compliance with applicable standards.
- When using do not eat, drink or smoke.
- Gloves, overalls and boots have to be double layered (protection against cold temperature).
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Physical state	liquid

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Form	Volatile.
Color	colorless
Odor	ether-like
Odor Threshold	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	Boiling point/boiling range: 98.1 °F (36.7 °C)
Flammability (solid, gas)	Not applicable
Flammability (liquids)	The product is not flammable. Can become highly flammable in use.
Flammability / Explosive limit	Lower flammability/explosion limit: Type: Lower explosion limit 3.90 %(V) Upper flammability/explosion limit: Type: Upper explosion limit 11.70 %(V)
Flash point	does not flash
Autoignition temperature	No data available
Decomposition temperature	>= 392 °F (>= 200 °C)
pH	6.0
Viscosity	Viscosity, dynamic : 0.4 mPa.s (77 °F (25 °C))
Solubility	No data available
Partition coefficient: n-octanol/water	log Pow: 1.6 1,1,1,3,3-pentafluorobutane
Vapor pressure	375.03 mmHg (500 hPa) (68 °F (20 °C))
Density	Bulk density: Not applicable
Relative density	1.37
Relative vapor density	> 1 (68 °F (20 °C))
Particle characteristics	No data available
Evaporation rate (Butylacetate = 1)	No data available

9.2 Other information

Explosiveness	In use, may form flammable/explosive vapor-air mixture.
Oxidizing properties	Not considered as oxidizing.

Self-ignition	1076 °F (580 °C) 1,1,1,3,3-pentafluorobutane
Henry's Constant	ca. 3800 Pa.m3 / mol (68 °F (20 °C)) Method: Calculation method considerable volatility, Air

SECTION 10: Stability and reactivity

10.1 Reactivity

- Risk of violent reaction.
- Risk of explosion.

10.2 Chemical stability

- Stable under recommended storage conditions.

- In use, may form flammable/explosive vapor-air mixture.
- Strong oxidizers, alkali metals and alkaline earth metals may cause fires or explosions.

10.3 Possibility of hazardous reactions

- Strong oxidizers, alkali metals and alkaline earth metals may cause fires or explosions.

10.4 Conditions to avoid

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

- Light and/or alkaline metals
- Powdered metals
- Alkaline earth metals

10.6 Hazardous decomposition products

Hazardous decomposition products

- Gaseous hydrogen fluoride (HF).
- Carbon monoxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Butane, 1,1,1,3,3-pentafluoro-	LD50 : > 2,000 mg/kg - Rat , male and female Method: OECD Test Guideline 401 Not classified as hazardous for acute oral toxicity according to GHS.
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	LD50 : > 5,000 mg/kg - Rat , male and female Method: OECD Test Guideline 401 Unpublished internal reports

Acute inhalation toxicity

Butane, 1,1,1,3,3-pentafluoro-	LC50 - 4 h (vapor) : > 100,000 ppm - Rat , male and female Not classified as hazardous for acute inhalation toxicity according to GHS.

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Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	LC50 - 4 h (vapor) : > 1,627 mg/l - Rat , male and female Method: OECD Test Guideline 403 Unpublished internal reports
Asphyxiation Hazard	This product is a simple asphyxiant.
Acute dermal toxicity	
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	LD50 : > 2,000 mg/kg - Rat , male and female Method: OECD Test Guideline 402 Unpublished internal reports
Acute toxicity (other routes of administration)	No data available

Skin corrosion/irritation

Butane, 1,1,1,3,3-pentafluoro-	Rabbit No skin irritation Method: OECD Test Guideline 404
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Rabbit No skin irritation Method: OECD Test Guideline 404 Unpublished internal reports

Serious eye damage/eye irritation

Butane, 1,1,1,3,3-pentafluoro-	Rabbit No eye irritation Method: OECD Test Guideline 405
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Rabbit No eye irritation Method: OECD Test Guideline 405 Unpublished internal reports

Respiratory or skin sensitization

Butane, 1,1,1,3,3-pentafluoro-	Maximization Test - Guinea pig Does not cause skin sensitization. Method: OECD Test Guideline 406
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Buehler Test - Guinea pig Does not cause skin sensitization. Method: OECD Test Guideline 406 Unpublished internal reports

Mutagenicity

Genotoxicity in vitro

Butane, 1,1,1,3,3-pentafluoro-	In vitro tests did not show mutagenic effects
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Ames test with and without metabolic activation negative Method: OECD Test Guideline 471 Information given is based on data obtained from similar substances. Unpublished internal reports Chromosome aberration test in vitro with and without metabolic activation negative Method: OECD Test Guideline 473 Information given is based on data obtained from similar substances. Unpublished internal reports

Genotoxicity in vivo

Butane, 1,1,1,3,3-pentafluoro-	In vivo tests did not show mutagenic effects

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Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	In vivo micronucleus test - Rat male Inhalation Method: OECD Test Guideline 474 negative Information given is based on data obtained from similar substances. Unpublished internal reports

Carcinogenicity No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Butane, 1,1,1,3,3-pentafluoro-	One-Generation Reproduction Toxicity Study - Rat, male and female, Inhalation Fertility NOAEL Parent: 30,000 ppm OECD Test Guideline 415

Developmental Toxicity/Teratogenicity

Butane, 1,1,1,3,3-pentafluoro-	Rat, female, Inhalation Teratogenicity NOAEC:30,000ppm Method: OECD Test Guideline 414 no embryotoxic or teratogenic effects have been observed Rabbit, female, Inhalation Teratogenicity NOAEC:30,000ppm Method: OECD Test Guideline 414 no embryotoxic or teratogenic effects have been observed
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Rat, Inhalation Method: OECD Test Guideline 414 no embryotoxic or teratogenic effects have been observed, Information given is based on data obtained from similar substances., Unpublished internal reports

STOT

STOT-single exposure

Butane, 1,1,1,3,3-pentafluoro-	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

STOT-repeated exposure

Butane, 1,1,1,3,3-pentafluoro-	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria.
Butane, 1,1,1,3,3-pentafluoro-	Inhalation Single exposure - Dog LOAEL: 75100 ppm cardiac sensitization following adrenergic stimulation Inhalation 1-year - Rat , male and female NOAEC: 6980 ppm Target Organs: Liver, Kidney
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Oral 28-day - Rat , male and female NOEL: 1000 mg/kg Method: OECD Test Guideline 407 Unpublished internal reports

Inhalation (vapor) 28-day - Rat , male and female
NOAEC: 9842 ppm
Method: OECD Test Guideline 412
No significant adverse effects were reported
Information given is based on data obtained from similar substances.
Unpublished internal reports

Inhalation (vapor) 90-day - Rat , male
NOAEC: 10075 ppm
Method: OECD Test Guideline 413
No significant adverse effects were reported
Information given is based on data obtained from similar substances.
Unpublished internal reports

Experience with human exposure — No data available

CMR effects

Mutagenicity

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated — The product is considered to be non-mutagenic based on an overall assessment of the data from animal and/or in vitro testing.

Teratogenicity

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated — Animal testing did not show any effects on fetal development.

Aspiration toxicity — No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated

- 96 h : - Danio rerio (zebra fish)
semi-static test
Analytical monitoring: yes

Method: OECD Test Guideline 203
No significant deleterious effects observed up to the highest concentration tested.
Unpublished internal reports

Acute toxicity to daphnia and other aquatic invertebrates

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated

- 48 h : - Daphnia magna (Water flea)
semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
No significant deleterious effects observed up to the highest concentration tested.
Unpublished internal reports

Toxicity to aquatic plants

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated

- 72 h : - Pseudokirchneriella subcapitata (green algae)
static test
Analytical monitoring: yes
Endpoint: Growth rate
Method: OECD Test Guideline 201
No significant deleterious effects observed up to the highest concentration tested.
Unpublished internal reports

Toxicity to microorganisms

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Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	NOEC - 3 h : 1,000 mg/l - activated sludge Analytical monitoring: no Method: OECD Test Guideline 209 Unpublished internal reports
Chronic toxicity to fish	No data available
Chronic toxicity to daphnia and other aquatic invertebrates	No data available

12.2 Persistence and degradability

Abiotic degradation

Stability in water

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Method: Structure-activity relationship (SAR) Stable
Physical- and photo-chemical elimination	No data available

Biodegradation

Biodegradability

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	The substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability Structure-activity relationship (SAR)

Degradability assessment

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	The product is not considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Not relevant Direct and indirect exposure of the aquatic compartment is unlikely.

Bioconcentration factor (BCF)

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Bioaccumulation is unlikely. Direct and indirect exposure of the aquatic compartment is unlikely.

12.4 Mobility in soil

Adsorption potential (Koc)

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Adsorption/Soil Koc: 1000 - 10000 Method: OECD Test Guideline 106 Unpublished internal reports

Known distribution to environmental compartments

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Ultimate destination of the product: Air Fate models Predicted distribution to environmental compartments

12.5 Results of PBT and vPvB assessment

Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Ozone-Depletion Potential	Ozone-Depletion Potential: 0 Additional Information: no effect on stratospheric ozone Ozone depletion potential; ODP; (R-11 = 1)
Global warming potential	Regulatory basis: Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC) 20-year global warming potential: 2,660 100-year global warming potential: 804 Radiative efficiency: 0.22 Wm2ppb Additional Information: Hydrofluorocarbons

Ecotoxicity assessment

Short-term (acute) aquatic hazard	
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	Not classified due to data which are conclusive although insufficient for classification. No acute environmental hazard identified.
Long-term (chronic) aquatic hazard	
Hexafluoropropene, oxidized, oligomers, reduced, fluorinated	May cause long lasting harmful effects to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- The incinerator must be equipped with a system for the neutralization or recovery of HF.
- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

Advice on cleaning and disposal of packaging

- Where possible recycling is preferred to disposal or incineration.

SECTION 14: Transport information

DOT
not regulated

TDG
not regulated

NOM
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory - CAS: 69991-67-9
Canadian Domestic Substances List (DSL)	- Listed on Inventory - CAS: 69991-67-9
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory: Listed introduction - CAS: 69991-67-9
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory - CAS: 69991-67-9
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory - CAS: 69991-67-9
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand. - CAS: 69991-67-9
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory - CAS: 69991-67-9
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 Federal Regulations

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US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

Simple Asphyxiant	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)
This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)
This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

This material does not contain any components with a CERCLA RQ.

Other regulations

Montreal Protocol

- Banned and/or restricted

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	0 minimal
Flammability	3 serious
Instability or Reactivity	1 slight
Special Notices	None

Further information

- Distribute new edition to clients
- Update
- See section 1
- See section 2
- See section 3

Date Prepared: 10/26/2021

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

- ACGIH: American Conference of Governmental Industrial Hygienists
- OSHA: Occupational Safety and Health Administration
- NTP: National Toxicology Program
- IARC: International Agency for Research on Cancer

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- NIOSH: National Institute for Occupational Safety and Health
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Specification for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.