We create chemistry

Safety Data Sheet
Lupasol® PS

1. Identification

Product identifier used on the label

Lupasol® PS

Recommended use of the chemical and restriction on use
Suitable for use in industrial sector: chemical industry

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification
Chemical family: polyethyleneimine
Synonyms: Polyethyleneimine

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Skin Sens.	1B	Skin sensitization
Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Warning

Hazard Statement:

H319	Causes serious eye irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.
P270	Do not eat, drink or smoke when using this product.
P264	Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P352	IF ON SKIN (or hair): Wash with plenty of soap and water.
P333 + P311	If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330	Rinse mouth.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P337 + P311	If eye irritation persists: Call a POISON CENTER or doctor/physician.

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

Labeling of special preparations (GHS):
The following percentage of the mixture consists of components(s) with unknown hazards regarding the acute toxicity: 33 %

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

CAS Number	Weight %	Chemical name
9002-98-6	33.0 %	polyethyleneimine

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air, seek medical attention.

If on skin:
Wash thoroughly with soap and water.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

Further accidental release measures:
High risk of slipping due to leakage/spillage of product.

Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Information regarding personal protective measures see, section 8.

Environmental precautions
Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up
For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder).
Dispose of absorbed material in accordance with regulations.
For large amounts: Pump off product.
Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling
No special measures necessary provided product is used correctly.

Protection against fire and explosion:
No special precautions necessary.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Stainless steel 1.4301 (V2), High density polyethylene (HDPE), Stainless steel 1.4401, Low density polyethylene (LDPE), glass

Further information on storage conditions: Keep container tightly closed and in a cool place.

Storage stability:
Storage temperature: 5 - 40 °C
Protect from temperatures below: 5 °C
Protect from temperatures above: 40 °C

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Personal protective equipment

Respiratory protection:
Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2)

Hand protection:
Chemical resistant protective gloves

Eye protection:
Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Wearing of closed work clothing is required additionally to the stated personal protection equipment.
Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	product specific	
Odour threshold:	not determined	
Colour:	colourless to yellowish	
pH value:	approx. 11 (1 %(m))	(DIN 19268)
solidification temperature:	-25 °C	
Boiling point:	approx. 100 °C (1,013 hPa)	
Flash point:	A flash point determination is unnecessary due to the high water content. Aqueous preparation	
Flammability:	not self-igniting	
Lower explosion limit:	For liquids not relevant for classification and labelling.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	> 200 °C	(DIN 51794)
Vapour pressure:	24 mbar (20 °C)	
Density:	approx. 1.08 g/cm3 (20 °C)	(DIN 51757)
Relative density:	No data available.	
Vapour density:	not determined	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Self-ignition temperature:	not self-igniting	
Thermal decomposition:	> 250 °C	
Viscosity, dynamic:	approx. 1,700 mPa.s (20 °C)	
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	fully soluble	
Solubility (qualitative):	solvent(s): distilled water, alcohols, Methanol, Ethanol, 1-Propanol, 2-Propanol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties:
not fire-propagating

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions when stored and handled according to instructions.
The product is chemically stable.

Conditions to avoid
See MSDS section 7 - Handling and storage.

Incompatible materials
None known during use and storage if used according to instructions.

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
> 250 °C

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Oral
Type of value: LD50
Species: rat
Value: > 300 - 2,000 mg/kg (OECD Guideline 423)

Information on: POLYETHYLENEIMINE
Type of value: LD50
Species: rat
Value: > 300 - 2,000 mg/kg (OECD Guideline 423)

Inhalation
Type of value: LC50
Species: rat
not determined

Dermal
Type of value: LD50
Species: rat
not determined

Assessment other acute effects
No data available.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Information on: POLYETHYLENEIMINE
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Information on: POLYETHYLENEIMINE
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Sensitization
Assessment of sensitization: Sensitization after skin contact possible.

Information on: POLYETHYLENEIMINE
Assessment of sensitization:
Sensitization after skin contact possible.

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No data available.

Genetic toxicity
Assessment of mutagenicity: No data available.

Carcinogenicity
Assessment of carcinogenicity: No data available.

Reproductive toxicity
Assessment of reproduction toxicity: No data available.

Teratogenicity
Assessment of teratogenicity: No data available.

Other Information
The product has not been tested. The statements on toxicology have been derived from products of a similar structure and composition.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
The chronic aquatic risk classification is based on acute aquatic toxicity study data and the environmental fate properties of the product.

Toxicity to fish
LC50 (96 h) > 1 - 10 mg/l, Leuciscus idus

Aquatic invertebrates
LC50 (48 h), daphnia
not determined

Aquatic plants
EC50 (72 h), algae
not determined

Chronic toxicity to fish
No data available.

Chronic toxicity to aquatic invertebrates
No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Poorly biodegradable. Well eliminable from water by adsorption on activated sludge.

Elimination information

Poorly biodegradable.

Well eliminable from water by adsorption on activated sludge.

Bioaccumulative potential

Assessment bioaccumulation potential
The product has not been tested.

Mobility in soil

Assessment transport between environmental compartments
not determined

Additional information

Add. remarks environm. fate & pathway:
Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:
The product has not been tested. The statements on ecotoxicology have been derived from products of a similar structure and composition. Do not allow to enter soil, waterways or waste water channels.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

Container disposal:
Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Marine pollutant:	YES
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains POLYETHYLENEIMINE)

Air transport
IATA/ICAO

Hazard class:	9
Packing group:	III
ID number:	UN 3082
Hazard label:	9, EHSM
Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains POLYETHYLENEIMINE)

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

NFPA Hazard codes:
Health: 2 Fire: 1 Reactivity: 0 Special:

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2018/03/12

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET