

# Safety data sheet

Page: 1/12

BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

## 1. Identification

### Product identifier

## Lupasol® G 20 Waterfree

Chemical name: polyethyleneimine

CAS Number: 9002-98-6

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

Relevant identified uses: formulation auxiliary for the chemical industry

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

#### Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Care Chemicals

Telephone: +49 621 60-57579

E-mail address: emd-ems-ehs-masterdata@basf.com

### Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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## 2. Hazards Identification

### Classification of the substance or mixture

According to UN GHS criteria

Acute Tox. 4 (oral)

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

Eye Dam./Irrit. 1  
Aquatic Acute 2  
Aquatic Chronic 2

For the classifications not written out in full in this section the full text can be found in section 16.

## Label elements

### Globally Harmonized System (GHS)

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H302	Harmful if swallowed.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear eye and face protection.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts 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.
P310	Immediately call a POISON CENTER or physician.
P330	Rinse mouth
P391	Collect spillage.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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## Other hazards

### According to UN GHS criteria

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

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## 3. Composition/Information on Ingredients

### Substances

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

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Chemical nature

polyethyleneimine

CAS Number: 9002-98-6

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**Mixtures**

Not applicable

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**4. First-Aid Measures****Description of first aid measures**

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

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

**Most important symptoms and effects, both acute and delayed**

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

**Indication of any immediate medical attention and special treatment needed**

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

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**5. Fire-Fighting Measures****Extinguishing media**

Suitable extinguishing media:  
water spray, dry powder, foam

**Special hazards arising from the substance or mixture**

harmful vapours, carbon oxides, nitrogen oxides

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

**Advice for fire-fighters**

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

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

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**6. 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**

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

**Methods and material for containment and cleaning up**

For large amounts: Dike spillage. Pump off product.

For residues: Pick up with suitable absorbent material.

Dispose of absorbed material in accordance with regulations.

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**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**

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

Protect from temperatures above: 40 °C

**Specific end use(s)**

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

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**8. Exposure Controls/Personal Protection****Control parameters**Components with occupational exposure limits

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

111-40-0: 2,2'-Iminodi(ethylamine)

**Exposure controls**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 (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding &gt; 480 minutes of permeation time according to EN ISO 374-1):

nitrile rubber (NBR) - 0.4 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (cage goggles) (e.g. EN 166) and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Wearing of closed work clothing is recommended. No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

Form:	liquid	
Colour:	colourless to yellowish	
Odour:	product specific	
pH value:	approx. 11 (1 %(m))	(DIN 19268)
pour point:	approx. -16 °C	(DIN ISO 3016)
boiling temperature:	> 200 °C	(internal test)
Flash point:	> 200 °C	(ISO 2592)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	not self-igniting	(other)
Lower explosion limit:	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	> 200 °C	(DIN 51794)
Vapour pressure:	not determined	
Density:	approx. 1,03 g/cm <sup>3</sup> (20 °C)	(DIN 51757)
Relative density:	No data available.	
Relative vapour density (air):	not determined	
Solubility in water:	miscible	
Solubility (qualitative) solvent(s):	alcohols, distilled water	
Partitioning coefficient n-octanol/water (log K <sub>ow</sub> ):	not determined	
Self ignition:	not self-igniting	
Thermal decomposition:	> 250 °C	
Viscosity, dynamic:	approx. 8.000 mPa.s (20 °C)	(DIN EN ISO 2555)
Explosion hazard:	not explosive	
Fire promoting properties:	not fire-propagating	

**Other information**

Self heating ability:	It is not a substance capable of spontaneous heating according to UN transport regulations class 4.2.
Surface tension:	No data available.
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.
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.

Corrosion to metals: Corrosive effects to metal are not anticipated.

**Chemical stability**

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

**Possibility of hazardous reactions**

Addition of water leads to increase in temperature.

**Conditions to avoid**

See SDS section 7 - Handling and storage.

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

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**Incompatible materials**

Substances to avoid:

caustics, halogens, Alkalines, acids, reactive chemicals

**Hazardous decomposition products**

Hazardous decomposition products:

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

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**11. Toxicological Information****Information on toxicological effects**Acute toxicity

Assessment of acute toxicity:

Harmful if swallowed.

Experimental/calculated data:

LD50 rat (oral): &gt; 300 - 2.000 mg/kg

LC50 rat (by inhalation):

not determined

LD50 rat (dermal):

not determined

Irritation

Assessment of irritating effects:

Risk of serious damage to eyes. Not irritating to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (Draize test)

Serious eye damage/irritation rabbit: irreversible damage

Respiratory/Skin sensitization

Assessment of sensitization:

No sensitizing effect.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: Non-sensitizing. (OECD Guideline 429)

Germ cell mutagenicity

Assessment of mutagenicity:

Not classified, due to lack of data.

Carcinogenicity

Assessment of carcinogenicity:

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

---

Not classified, due to lack of data.

#### Reproductive toxicity

Assessment of reproduction toxicity:

Not classified, due to lack of data.

#### Developmental toxicity

Assessment of teratogenicity:

Not classified, due to lack of data.

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

Remarks: No data available.

#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Not classified, due to lack of data.

#### Aspiration hazard

No aspiration hazard expected.

#### Other relevant toxicity information

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

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## 12. Ecological Information

### **Toxicity**

Assessment of aquatic toxicity:

Toxic to aquatic life with long lasting effects. 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

Microorganisms/Effect on activated sludge:

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

Chronic toxicity to fish:



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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

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No data available.

Chronic toxicity to aquatic invertebrates:

No data available.

Assessment of terrestrial toxicity:

No data available concerning terrestrial toxicity.

### **Persistence and degradability**

Elimination information:

< 10 % DOC reduction (OECD 301 A (new version)) Non-biodegradable.

< 70 % COD reduction (28 d) (OECD 302B; ISO 9888; 88/302/EEC, part C) Well eliminable from water by adsorption on activated sludge.

### **Bioaccumulative potential**

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

### **Mobility in soil**

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is possible.

### **Results of PBT and vPvB assessment**

According to Annex XIV of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria. Self classification

### **Other adverse effects**

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

### **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:

Do not allow to enter soil, waterways or waste water channels.

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

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## **13. Disposal Considerations**

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

**Waste treatment methods**

Must be disposed of or incinerated in accordance with local regulations.

Contaminated packaging:

Uncontaminated packaging can be re-used.

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

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**14. Transport Information****Land transport**

ADR

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (POLYETHYLENEIMINE)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

RID

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (POLYETHYLENEIMINE)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

**Inland waterway transport**

ADN

UN number or ID number: UN3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (POLYETHYLENEIMINE)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

Transport in inland waterway vessel

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

Version: 1.2

Product: **Lupasol® G 20 Waterfree**

(ID no. 30048280/SDS\_GEN\_00/EN)

Date of print 09.08.2022

---

Not evaluated

**Sea transport**

## IMDG

UN number or ID number: UN 3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (POLYETHYLENEIMINE)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Marine pollutant: YES  
Special precautions for user: EmS: F-A; S-F

**Air transport**

## IATA/ICAO

UN number or ID number: UN 3082  
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S. (POLYETHYLENEIMINE)

Transport hazard class(es): 9, EHSM  
Packing group: III  
Environmental hazards: yes  
Special precautions for user: None known

**Maritime transport in bulk according to IMO instruments**

Maritime transport in bulk is not intended.

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**15. Regulatory Information****Safety, health and environmental regulations/legislation specific for the substance or mixture**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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**16. Other Information**

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. This includes the mentioned and recommended usage. Any other intended applications should be discussed with the manufacturer. In particular this concerns the application for products that are the object of special standards and regulations.

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Safety data sheet according to UN GHS 4th rev.

Date / Revised: 20.07.2022

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---

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

Acute Tox.

Acute toxicity

Eye Dam./Irrit.

Serious eye damage/eye irritation

Aquatic Acute

Hazardous to the aquatic environment - acute

Aquatic Chronic

Hazardous to the aquatic environment - chronic

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

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