

Safety data sheet

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BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Date / Revised: 23.01.2023

Version: 2.1

Date previous version: 01.12.2022

Previous version: 2.0

Date / First version: 09.09.2022

Product: **Luphen® 3644**

(ID no. 30631739/SDS_GEN_DE/EN)

Date of print 08.10.2025

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

1.1. Product identifier

Luphen® 3644

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

Relevant identified uses: Raw material, for industrial use only

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Regional Business Unit Dispersions Europe

Telephone: +49 621 60-0

E-mail address: ed-psr@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

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SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

No need for classification according to GHS criteria for this product.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

The product does not require a hazard warning label in accordance with GHS criteria.

According to Regulation (EC) No 1272/2008 [CLP]

Labeling of special preparations (GHS):

EUH208: May produce an allergic reaction. Contains: mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one, 3-aminomethyl-3,5,5-trimethylcyclohexylamine

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered. If the product adheres to skin, irritation may occur when it dries.

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. The product does not contain a substance above legal limits fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Aqueous dispersion of a polymer based on: polyurethane

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Regulatory relevant ingredients

mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one

Content (W/W): < 15 PPM

Acute Tox. 3 (oral)

CAS Number: 55965-84-9

Acute Tox. 2 (Inhalation - mist)

REACH registration number: 01-2120764691-48

Acute Tox. 2 (dermal)

INDEX-Number: 613-167-00-5

Skin Corr./Irrit. 1C

Eye Dam./Irrit. 1

Skin Sens. 1A

Aquatic Acute 1

Aquatic Chronic 1

M-factor acute: 100

M-factor chronic: 100

H301, H317, H314, H310 + H330, H400, H410

EUH071

Specific concentration limit:

Skin Corr./Irrit. 1C: >= 0,6 %

Skin Sens. 1A: >= 0,0015 %

Eye Dam./Irrit. 1: >= 0,6 %

Skin Corr./Irrit. 2: 0,06 - < 0,6 %

Eye Dam./Irrit. 2: 0,06 - < 0,6 %

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Content (W/W): <= 10 PPM

Acute Tox. 4 (oral)

CAS Number: 2855-13-2

Aquatic Chronic 3

EC-Number: 220-666-8

Skin Corr./Irrit. 1B

REACH registration number: 01-2119514687-32

Eye Dam./Irrit. 1

INDEX-Number: 612-067-00-9

Skin Sens. 1A

H302, H317, H314, H412

Specific concentration limit:

Skin Sens. 1A: >= 0,001 %

Acute toxicity estimate:

oral: 1.030 mg/kg

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

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

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On skin contact:

Wash thoroughly with soap and water

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:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting unless told to by a poison control center or doctor.

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

Symptoms: (Further) symptoms and / or effects are not known so far

Hazards: No hazards anticipated.

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

Treatment: Symptomatic treatment (decontamination, vital functions).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

Advice: No particular hazards known.

5.3. Advice for fire-fighters

Special protective equipment:

No data available.

Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Avoid contact with skin and eyes.

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6.2. Environmental precautions

Do not release untreated into natural waters.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

For large amounts: Pump off product.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. After long storage, slight quantities of carbon monoxide may be formed. To our best knowledge, the occupational exposure limit (OEL) is not exceeded during use. Entering of tanks must only be performed after intensive cleaning and when it is ensured that residual vapours have been removed. Consideration of national laws and international standards for confined space entry should be taken in to account. In case of doubt, the concentration of Carbon monoxide must be determined.

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage conditions: Store protected against freezing.

Storage class according to TRGS 510 (originally VCI, Germany): (12) Non-combustible liquids

Protect from temperatures below: 5 °C

Protect from temperatures above: 60 °C

7.3. 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.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

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8.2. Exposure controls

Personal protective equipment

Hand protection:

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. 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.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

General safety and hygiene measures

Hands and/or face should be washed before breaks and at the end of the shift. Avoid contact with skin and eyes.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter: liquid
Form: liquid, dispersion
Colour: white
Odour: almost odourless
Odour threshold:

not determined

Information on: Water

Melting point: 0 °C

Information on: Water

Boiling point: 100 °C

Flammability: not flammable

Lower explosion limit: For liquids not relevant for classification and labelling.

Upper explosion limit: For liquids not relevant for classification and labelling.

Flash point: not applicable

Auto-ignition temperature: not applicable

Thermal decomposition: No decomposition if used correctly.

pH value: 6,5 - 8,5

(DIN ISO 976)

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Viscosity, dynamic:	10 - 200 mPa.s (23 °C, 250 1/s)	(DIN EN ISO 3219)
Solubility in water:	partly soluble (15 °C)	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
<i>Information on: Water</i>		
Vapour pressure:	23,4 hPa (20 °C)	
	<i>Literature data.</i>	

Relative density:	No data available.	
Density:	1,0 - 1,1 g/cm ³ (20 °C)	(ISO 2811-1)
Relative vapour density (air):	not applicable	

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: not explosive

Oxidizing properties

Fire promoting properties: not fire-propagating

Self-heating substances and mixtures

Self heating ability: It is not a substance capable of spontaneous heating.

Other safety characteristics

Miscibility with water:	miscible	
Solids content:	49,0 - 51,0 %	(DIN EN ISO 3251)
Other Information:	Range of particle size: < 0,1 µm - 10 µm	
SAPT-Temperature:	Product does not fulfil criteria for polymerizing substances according to transport regulations.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

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10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

No hazardous reactions when stored and handled according to instructions. After long storage, slight quantities of carbon monoxide may be formed.

10.4. Conditions to avoid

Avoid extreme temperatures.

10.5. Incompatible materials

Substances to avoid:

No substances known that should be avoided.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological Information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): > 2.000 - 10.000 mg/kg

Irritation

Assessment of irritating effects:

If the product adheres to skin, irritation may occur when it dries.

Not irritating to the eyes. Not irritating to the skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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Experimental/calculated data:

Skin corrosion/irritation

rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation

rabbit: non-irritant (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Germ cell mutagenicity

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity

Assessment of carcinogenicity:

The whole of the information assessable provides no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

Not expected to cause reproductive toxicity (based on composition).

Developmental toxicity

Assessment of teratogenicity:

The data available for an assessment of the effect of the substance on developmental toxicity are not sufficient for a proper evaluation.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

Assessment of repeated dose toxicity:

No adverse effects were observed after repeated inhalative exposure in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration hazard

not applicable

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Other information

Other relevant toxicity information

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The statement was derived from products of similar composition.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity to fish:

LC50 (96 h) > 100 mg/l, *Brachydanio rerio* (OECD Guideline 203, static)

Aquatic invertebrates:

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EC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants:

EC50 (72 h) > 100 mg/l, *Scenedesmus subspicatus* (OECD Guideline 201)

Nominal concentration.

Microorganisms/Effect on activated sludge:

EC20 (0,5 h) > 100 mg/l, activated sludge, domestic (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C)

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product can be virtually eliminated from water by abiotic processes e.g. adsorption onto activated sludge.

Elimination information:

> 70 % DOC reduction (OECD 302B; ISO 9888; 88/302/EEC,part C) Easily eliminated from water.

12.3. Bioaccumulative potential

Bioaccumulation potential:

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: No data available.

12.5. Results of PBT and vPvB assessment

According to Annex XIII 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.

12.6. Endocrine disrupting properties

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting

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properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

No data available.

12.8. Additional information

Adsorbable organically-bound halogen (AOX):

No data available.

Other ecotoxicological advice:

Do not release untreated into natural waters. At the present state of knowledge, no negative ecological effects are expected.

Ecological data are determined by analogy.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

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

A waste code in accordance with the European waste catalog (EWC) cannot be specified, due to dependence on the usage.

Observe national and local legal requirements.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

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UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable

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Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number or ID number

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Restrictions of Regulation (EC) No 1907/2006, Annex XVII, do not apply for the intended use(s) of the product given in this SDS.

Hazardous Incident Ordinance (Germany):

Listed in above regulation: no

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):

Listed in above regulation: no

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from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

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.

Vertical lines in the left hand margin indicate an amendment from the previous version.