

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 21.07.2016

Version: 5.1

Product: **Lysmeral® Extra**

(ID no. 30506710/SDS_GEN_EU/EN)

Date of print 22.07.2016

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

1.1. Product identifier

Lysmeral® Extra

Chemical name: 2-(4-tert-Butylbenzyl)propionaldehyde

CAS Number: 80-54-6

REACH registration number: 01-2119485965-18-0000

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

Relevant identified uses: Chemical, Chemical for detergents, Chemical for soaps, detergents and cosmetic

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Nutrition and Health

Telephone: +49 621 60-48434

E-mail address: EN-global-safety-data@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (oral)
Skin Corr./Irrit. 2
Skin Sens. 1B
Repr. 2 (fertility)
Aquatic Chronic 2

H315, H302, H317, H361f, H411

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

2.2. Label elements

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

Pictogram:



Signal Word:

Warning

Hazard Statement:

H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
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):

BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

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P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
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 + P330 IF SWALLOWED: rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

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

2.3. Other hazards

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

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

2-(4-tert-Butylbenzyl)propionaldehyde
CAS Number: 80-54-6
EC-Number: 201-289-8

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.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Immediately remove contaminated clothing. If difficulties occur: Obtain medical attention. Show container, label and/or safety data sheet to physician.

If inhaled:

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

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention.

4.2. 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.

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

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

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, alcohol-resistant foam, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons:

water jet

5.2. Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide

The substances/groups of substances mentioned can be released in case of fire. Burning produces harmful and toxic fumes. Evolution of fumes/fog.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

Cool endangered containers with water-spray. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures see, section 8. Do not breathe vapour/spray. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing. Avoid all sources of ignition: heat, sparks, open flame.

6.2. Environmental precautions

Do not empty into drains. Inform authorities in the event of product spillage to water courses or sewage systems.

6.3. 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.

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

Ensure thorough ventilation of stores and work areas. Wear suitable protective clothing and eye/face protection. Avoid contact with the skin, eyes and clothing. Keep container tightly sealed.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Suitable materials for containers: Stove-lacquer RDL 50, High density polyethylene (HDPE), Low density polyethylene (LDPE), tinned carbon steel (Tinplate), glass, Aluminium

Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep away from sources of ignition - No smoking. Protect contents from the effects of light. Protect against heat.

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

64-17-5: ethanol; ethyl alcohol

PNEC

freshwater: 0.00204 mg/l

marine water: 0.0002 mg/l

intermittent release: 0.024 mg/l

sediment (freshwater): 0.269 mg/kg

sediment (marine water): 0.0269 mg/kg

soil: 0.0525 mg/kg

STP: 10 mg/l

DNEL

worker:

Long-term exposure- systemic effects, Inhalation: 0.44 mg/m³

worker:

Short-term exposure - local effects, dermal: 0.41 mg/cm²

worker:

Long-term exposure- systemic effects, dermal: 2.075 mg/kg

consumer:

Long-term exposure- systemic effects, Inhalation: 0.11 mg/m³

consumer:

Long-term exposure- systemic effects, oral: 0.0625 mg/kg

consumer:

Long-term exposure- systemic effects, dermal: 1.0375 mg/kg

consumer:

Short-term exposure - local effects, dermal: 0.41 mg/cm²

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Consider the risk management measures as outlined in the exposure scenario.

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

butyl rubber (butyl) - 0.7 mm coating thickness

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.

Eye protection:

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

Consider the risk management measures as outlined in the exposure scenario.

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).

Consider the risk management measures as outlined in the exposure scenario.

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. No eating, drinking, smoking or tobacco use at the place of work. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	pleasant	
Odour threshold:	< 100 ppm	
pH value:	approx. 7	
Freezing point:	< -20 °C	(other)
Boiling point:	279.5 °C (1,013 hPa)	(other)
Flash point:	79 °C	(Directive 92/69/EEC, A.9, closed cup)

Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	Combustible liquid.	
Lower explosion limit:	0.5 %(V) (119 °C)	(air)
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	257 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	0.0025 hPa (20 °C)	(BASF method)
Density:	dynamic 0.9408 g/cm3 (25 °C) 0.9390 g/cm3 (20 °C)	(ISO 2811-3)
Relative density:	0.9390 (20 °C) Literature data.	(other)
Relative vapour density (air):	not applicable	
Solubility in water:	0.033 g/l (20 °C)	(OECD Guideline 105)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	4.2 (24 °C)	(OECD Guideline 117)
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	> 200 °C	
Viscosity, dynamic:	12.3 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.	(OECD 114)
	5.59 mPa.s (40 °C) The value was determined by calculation from the detected kinematic viscosity.	(OECD 114)
Viscosity, kinematic:	13.0 mm2/s (20 °C) 6.01 mm2/s (40 °C)	(OECD 114) (OECD 114)
Explosion hazard:	Based on the chemical structure there is no indicating of explosive properties.	

Fire promoting properties: not fire-propagating

9.2. Other information

Miscibility with water:

immiscible

pKA:

The substance does not dissociate.

Surface tension:

Based on chemical structure, surface activity is not to be expected.

Grain size distribution:

The substance / product is marketed or used in a non solid or granular form.

SECTION 10: Stability and Reactivity

10.1. Reactivity

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

Corrosion to metals: No corrosive effect on metal.

Formation of

Remarks:

flammable gases:

Forms no flammable gases in the presence of water.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

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

10.4. Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge. See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:

No substances known that should be avoided.

10.6. Hazardous decomposition products

Hazardous decomposition products:

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

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of moderate toxicity after single ingestion. Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): 1,390 mg/kg (BASF-Test)

LC50 rat (by inhalation): 7 h (IRT)

Inhalation-risk test (IRT): No mortality within 7 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard. The vapour was tested.

LD50 rat (dermal): > 2,000 mg/kg (BASF-Test)

No mortality was observed.

Irritation

Assessment of irritating effects:

Skin contact causes irritation. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant (BASF-Test)

Respiratory/Skin sensitization

Assessment of sensitization:

Caused skin sensitization in animal studies. Caused sensitization in humans.

Experimental/calculated data:

Mouse Local Lymph Node Assay (LLNA) mouse: skin sensitizing

Patch-Test human: skin sensitizing (other)

Germ cell mutagenicity

Assessment of mutagenicity:

In the majority of tests performed (bacteria/microorganisms/cell cultures) a mutagenic effect was not found. A mutagenic effect was also not observed in in-vivo assays.

Carcinogenicity

Assessment of carcinogenicity:

No data was available concerning carcinogenic activity. Study does not need to be conducted.

Reproductive toxicity

Assessment of reproduction toxicity:

The substance may cause damage to the testes after repeated ingestion, as shown in animal studies.

Developmental toxicity**Assessment of teratogenicity:**

The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

Specific target organ toxicity (single exposure)**Assessment of STOT single:**

Based on available Data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)**Assessment of repeated dose toxicity:**

The substance may cause damage to the liver after repeated ingestion.

Aspiration hazard

No data available.

SECTION 12: Ecological Information**12.1. Toxicity****Assessment of aquatic toxicity:**

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

Toxicity to fish:

LC50 (96 h) 2.04 mg/l, *Brachydanio rerio* (OECD 203; ISO 7346; 92/69/EEC, C.1, Flow through.)

The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:

EC50 (48 h) 10.7 mg/l, *Daphnia magna* (Directive 79/831/EEC, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic plants:

EC50 (72 h) 29.16 mg/l (growth rate), *Scenedesmus subspicatus* (DIN 38412 Part 9, static)

The details of the toxic effect relate to the nominal concentration. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Microorganisms/Effect on activated sludge:

EC10 (3 h) > 100 mg/l, activated sludge, domestic (OECD Guideline 209, aerobic)

Chronic toxicity to fish:

No observed effect concentration (21 d) > 0.2 mg/l, Pimephales promelas (other, Flow through.)

No observed effect concentration (21 d) > 0.2 mg/l, Pimephales promelas (other, Flow through.)

Chronic toxicity to aquatic invertebrates:

Study scientifically not justified.

Assessment of terrestrial toxicity:

Study scientifically not justified.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

84 % BOD of the ThOD (28 d) (OECD Guideline 301 F) (aerobic, activated sludge)

Assessment of stability in water:

In contact with water the substance will hydrolyse slowly.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Accumulation in organisms is expected.

Bioaccumulation potential:

Bioconcentration factor: 274 (calculated)

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will slowly evaporate into the atmosphere from the water surface.

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

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 fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Incinerate in suitable incineration plant, observing local authority regulations.

SECTION 14: Transport Information

Land transport

ADR

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2-(4-TERT-BUTYLBENZYL)PROPIONALDEHYDE)
Transport hazard class(es):	9, EHS
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2-(4-TERT-BUTYLBENZYL)PROPIONALDEHYDE)
Transport hazard class(es):	9, EHS
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains 2-(4-TERT-BUTYLBENZYL)PROPIONALDEHYDE)
Transport hazard class(es):	9, EHS
Packing group:	III
Environmental hazards:	yes

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Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number: UN 3082
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (contains 2-(4-TERT-
 BUTYLBENZYL)PROPIONALDEHYDE)
 Transport hazard class(es): 9, EHSM
 Packing group: III
 Environmental hazards: yes
 Marine pollutant: YES
 Special precautions for user: None known

Air transport

IATA/ICAO

UN number: UN 3082
 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (contains 2-(4-TERT-
 BUTYLBENZYL)PROPIONALDEHYDE)
 Transport hazard class(es): 9, EHSM
 Packing group: III
 Environmental hazards: yes
 Special precautions for user: None known

14.1. UN number

See corresponding entries for "UN 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. Transport in bulk according to Annex II of MARPOL and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated
Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 3

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

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other InformationAssessment of the hazard classes according to UN GHS criteria (most recent version)

Acute Tox. 4 (oral)
Skin Corr./Irrit. 2
Repr. 2 (fertility)
Aquatic Acute 2
Aquatic Chronic 2
Flam. Liq. 4
Skin Sens. 1B

Any other intended applications should be discussed with the manufacturer. Corresponding occupational protection measurements must be followed.

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

Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
Skin Sens.	Skin sensitization
Repr.	Reproductive toxicity
Aquatic Chronic	Hazardous to the aquatic environment - chronic
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.

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.