

Safety Data Sheet

ENERGY

Safety Data Sheet dated 29/5/2015, version 2

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

1.1. Product identifier

Mixture identification:

Trade name: ENERGY

Trade code: 1360

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

Recommended use:

Paint for metal

Uses advised against:

Not suitable for use in homemaker (DIY) applications.

1.3. Details of the supplier of the safety data sheet

Supplier:

IMPA Spa - Via Crevada 9/E - 31020 SAN PIETRO DI FELETTO (TV) - ITALY

Competent person responsible for the safety data sheet:

msdsref@impa.it

1.4. Emergency telephone number

IMPA Spa - Phone ++39-0438-4548 - Fax ++39-0438-454915 (8.30 - 17.30)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Directive criteria, 67/548/EEC, 1999/45/EC and following amendments thereof:

Properties / Symbols:

 Xn Harmful

R Phrases:

R10 Flammable.

R20/21 Harmful by inhalation and in contact with skin.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EC regulation criteria 1272/2008 (CLP):

 Warning, Flam. Liq. 3, Flammable liquid and vapour.

 Warning, Skin Irrit. 2, Causes skin irritation.

 Warning, Eye Irrit. 2, Causes serious eye irritation.

 Warning, STOT SE 3, May cause respiratory irritation.

 Warning, STOT SE 3, May cause drowsiness or dizziness.

 Warning, STOT RE 2, May cause damage to organs through prolonged or repeated exposure.

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

2.2. Label elements

Symbols:



Warning

Hazard statements:

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs through prolonged or repeated exposure.

H412 Harmful to aquatic life with long lasting effects.

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Precautionary statements:

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe fume/gas/mist/vapours/spray.
- P280 Wear protective gloves/clothing and eye/face protection.
- P312 Call a POISON CENTER/ doctor if you feel unwell.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Special Provisions:

None

Contains:

- n-butyl acetate
- Aromatic hydrocarbons, C8
- Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate: May produce an allergic reaction.
- derivative of benzotriazol: May produce an allergic reaction.

2.3. Other hazards

- No other known hazard
- vPvB Substances: None - PBT Substances: None

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of EEC directive 67/548 and CLP regulation and related classification:

>= 25% - < 30% n-butyl acetate

- REACH No.: 01-2119485493-29, Index number: 607-025-00-1, CAS: 123-86-4, EC: 204-658-1 R10-66-67
- ⚠ 2.6/3 Flam. Liq. 3 H226
- ⚠ 3.8/3 STOT SE 3 H336
- EUH066

>= 20% - < 25% Aromatic hydrocarbons, C8

- REACH No.: 01-2119486136-34, CAS: 90989-38-1, EC: 292-694-9
- Xn,Xi; R10-20/21-65-48/20-36/37/38
- ⚠ 2.6/3 Flam. Liq. 3 H226
- ⚠ 3.1/4/Dermal Acute Tox. 4 H312
- ⚠ 3.1/4/Inhal Acute Tox. 4 H332
- ⚠ 3.10/1 Asp. Tox. 1 H304
- ⚠ 3.2/2 Skin Irrit. 2 H315
- ⚠ 3.3/2 Eye Irrit. 2 H319
- ⚠ 3.8/3 STOT SE 3 H335
- ⚠ 3.9/2 STOT RE 2 H373
- DECLJ*

>= 5% - < 7% Hydrocarbons, C9, aromatics

- REACH No.: 01-2119455851-35, EC: 918-668-5
- Xn,Xi,N; R10-37-51/53-65-66-67
- ⚠ 2.6/3 Flam. Liq. 3 H226
- ⚠ 3.10/1 Asp. Tox. 1 H304
- ⚠ 3.8/3 STOT SE 3 H335
- ⚠ 3.8/3 STOT SE 3 H336
- ⚠ 4.1/C2 Aquatic Chronic 2 H411
- EUH066
- DECLP*

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>= 0.1% - < 0.5% derivative of benzotriazol

REACH No.: 01-0000015075-76, Index number: 607-176-00-3, EC: 400-830-7

Xi,N; R43-51/53

⚠ 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317

⚠ 4.1/C2 Aquatic Chronic 2 H411

>= 0.1% - < 0.5% Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and metyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate

REACH No.: 01-2119491304-40

Xi,N; R43-50/53

⚠ 3.4.2/1B Skin Sens. 1B H317

⚠ 4.1/A1 Aquatic Acute 1 H400

⚠ 4.1/C1 Aquatic Chronic 1 H410

< 0.1% methyl methacrylate

REACH No.: 01-2119452498-28, Index number: 607-035-00-6, CAS: 80-62-6, EC: 201-297-1

F,Xi; R11-37/38-43

⚠ 2.6/2 Flam. Liq. 2 H225

⚠ 3.8/3 STOT SE 3 H335

⚠ 3.2/2 Skin Irrit. 2 H315

⚠ 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317

< 0.1% dibutyltin dilaurate

REACH No.: 01-2119496068-27, CAS: 77-58-7, EC: 201-039-8

Muta. Cat. 3, Repr. Cat. 2, T, Xi, C, N; R43-34-48/25-50/53-60-61-68

⚠ 3.2/1C Skin Corr. 1C H314

⚠ 3.8/1 STOT SE 1 H370

⚠ 3.4.2/1-1A-1B Skin Sens. 1,1A,1B H317

⚠ 3.9/1 STOT RE 1 H372

⚠ 3.5/2 Muta. 2 H341

⚠ 3.7/1B Repr. 1B H360FD

⚠ 4.1/A1 Aquatic Acute 1 H400

⚠ 4.1/C1 Aquatic Chronic 1 H410

*DECLJ: Substance classified accordingly to Note J of the Annex I of directive 67/548/EEC. The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1% weight/weight of benzene

*DECLP: Substance classified accordingly to Note P of the Annex I of directive 67/548/EEC. The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1% weight/weight of benzene

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

If breathing is irregular or stopped, administer artificial respiration.

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- In case of inhalation, consult a doctor immediately and show him packing or label.
- 4.2. Most important symptoms and effects, both acute and delayed
None known
- 4.3. Indication of any immediate medical attention and special treatment needed
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
Suitable extinguishing media:
CO₂, powder extinguisher, foam, water spray.
Extinguishing media which must not be used for safety reasons:
Water jet.
- 5.2. Special hazards arising from the substance or mixture
Burning produces heavy smoke.
Do not inhale explosion and/or combustion gases (carbon monoxide, carbon dioxide, oxides of nitrogen).
- 5.3. Advice for firefighters
Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
Remove all sources of ignition.
Wear personal protection equipment.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
See protective measures under point 7 and 8.
- 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- 6.3. Methods and material for containment and cleaning up
Suitable material for collection: inert absorbent material (e.g. sand, vermiculite)
After the product has been recovered, rinse the area and materials involved.
- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
See chapter 10.5
Instructions as regards storage premises:
Keep container tightly closed in a cool, well-ventilated place, away from heat.

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7.3. Specific end use(s)
See chapter 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

n-butyl acetate - CAS: 123-86-4

ACGIH, 150 ppm, 200 ppm - Notes: Eye and URT irr

WEL -- Country: UNITED KINGDOM - LTE: 724 mg/m³, 150 ppm - STE: 966 mg/m³, 200 ppm

Aromatic hydrocarbons, C8 - CAS: 90989-38-1

ACGIH - LTE: 434 mg/m³, 100 ppm - STE: 651 mg/m³, 150 ppm

Hydrocarbons, C9, aromatics

ACGIH - LTE: 100 mg/m³

methyl methacrylate - CAS: 80-62-6

WEL -- Country: UNITED KINGDOM - LTE: 208 mg/m³, 50 ppm - STE: 416 mg/m³, 100 ppm

EU, 50 ppm, 100 ppm - Notes: 15 minutes average value (for references see bibliography)

ACGIH, 50 ppm, 100 ppm - Notes: (SEN), A4 - URT and eye irr, body weight eff, pulm edema

dibutyltin dilaurate - CAS: 77-58-7

ACGIH - LTE: 0.1 mg/m³ - STE: 0.2 mg/m³ (calculated as total Tin)

DNEL Exposure Limit Values

Aromatic hydrocarbons, C8 - CAS: 90989-38-1

Worker Professional: 0.077 mg/l - Consumer: 0.0148 mg/l - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Worker Professional: 180 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Consumer: 1.6 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

Hydrocarbons, C9, aromatics

Worker Professional: 25 mg/l - Consumer: 11 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

Worker Professional: 0.150 mg/l - Consumer: 0.032 mg/l - Exposure: Human Inhalation - Frequency: Long Term, systemic effects

Consumer: 11 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

PNEC Exposure Limit Values

Aromatic hydrocarbons, C8 - CAS: 90989-38-1

Target: Marine water - Value: 0.327 mg/l

Target: Fresh Water - Value: 0.327 mg/l

Target: Marine water sediments - Value: 12.46 mg/kg

Target: Fresh Water - Value: 12.46 mg/kg

Target: Soil (agricultural) - Value: 2.31 mg/kg

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Skin protection:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Hands protection:

Use protective gloves that provides comprehensive protection, e.g. NBR (nitrile rubber), FKM (fluoro rubber).

The selection of suitable gloves does not only depend on the material, but also on other quality characteristics and varies from manufacturer to another one, and on the manner and times of use of the mixture.

Respiratory protection:

Use adequate protective respiratory equipment.

Environmental exposure controls:

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See chapter 6.2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and colour:	colourless transparent liquid
Odour:	of solvent
Odour threshold:	nd
pH:	nd
Melting point / freezing point:	nd
Initial boiling point and boiling range:	nd
Solid/gas flammability:	na
Upper/lower flammability or explosive limits:	nd
Vapour density:	nd
Flash point:	> 23 °C
Evaporation rate:	nd
Vapour pressure:	nd
Relative density:	0.96 ± 0.02
Solubility in water:	not soluble
Solubility in oil:	nd
Partition coefficient (n-octanol/water):	nd
Auto-ignition temperature:	nd
Decomposition temperature:	nd
Viscosity:	50 ÷ 70 sec. ISO-DIN cup 4 mm (20°C)
Explosive properties:	none
Oxidizing properties:	none

9.2. Other information

Miscibility:	nd
Conductivity:	nd

Legend:

na = not applicable - nd = not available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Because of heat or fire the preparation can release carbon oxides and vapours which may be harmful to health.

Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

10.4. Conditions to avoid

Avoid to keep near heat sources.

10.5. Incompatible materials

Avoid contact with oxidizing materials or powerful oxidising agents. The product could catch fire. See chapter 10.3

10.6. Hazardous decomposition products

No hazardous decomposition products when stored and handled correctly. See chapter 5.2

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the main substances found in the mixture:

n-butyl acetate - CAS: 123-86-4

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 10000 mg/kg

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Test: LD50 - Route: Skin - Species: Rabbit > 14000 mg/kg

Test: LC50 - Route: Inhalation Vapour - Species: Rat 21.1 mg/l - Duration: 4h

Aromatic hydrocarbons, C8 - CAS: 90989-38-1

a) acute toxicity:

Test: LC50 - Route: Inhalation Vapour - Species: Rat 27124 mg/m³ - Duration: 4h

Test: LD50 - Route: Oral - Species: Rat 3223 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit 12126 mg/kg

Hydrocarbons, C9, aromatics

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 3592 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 3160 mg/kg

Test: LC50 - Route: Inhalation Vapour - Species: Rat > 6193 mg/m³ - Duration: 4h

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl
1,2,2,6,6-pentamethyl-4-piperidyl sebacate

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 3.230 mg/kg

methyl methacrylate - CAS: 80-62-6

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg

Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg

Test: LC50 - Route: Inhalation Vapour - Species: Rat 29.8 mg/l

dibutyltin dilaurate - CAS: 77-58-7

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 2071 mg/kg

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg

If not differently specified, the information required in Regulation 453/2010/EC listed below must be considered as N.A.:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

SECTION 12: Ecological information

Adopt sound working practices, so that the product is not released into the environment.

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aromatic hydrocarbons, C8 - CAS: 90989-38-1

a) Aquatic acute toxicity:

Endpoint: IC50 - Species: Algae 2.2 mg/l - Duration h: 72

Endpoint: EC50 - Species: Daphnia 1.0 mg/l - Duration h: 24

Endpoint: LC50 - Species: Fish 2.6 mg/l - Duration h: 96

Hydrocarbons, C9, aromatics

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 3.2 mg/l - Duration h: 48

Endpoint: IC50 - Species: Algae 2.9 mg/l - Duration h: 72

Endpoint: LC50 - Species: Fish 9.2 mg/l - Duration h: 96

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate and methyl
1,2,2,6,6-pentamethyl-4-piperidyl sebacate

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 0.9 mg/l - Duration h: 96

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methyl methacrylate - CAS: 80-62-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 79 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia 69 mg/l - Duration h: 48

dibutyltin dilaurate - CAS: 77-58-7

a) Aquatic acute toxicity:

Endpoint: EC50 - Species: Daphnia 0.463 mg/l - Duration h: 48

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information



14.1. UN number

ADR-UN Number: 1263

IATA-UN Number: 1263

IMDG-UN Number: 1263

14.2. UN proper shipping name

ADR-Shipping Name: PAINT or PAINT RELATED MATERIAL

IATA-Shipping Name: PAINT or PAINT RELATED MATERIAL

IMDG-Shipping Name: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR-Class: 3

ADR - Hazard identification number: 30

IATA-Class: 3

IATA-Label: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

ADR-Environmental Pollutant: No

IMDG-Marine pollutant: No

14.6. Special precautions for user

ADR-Subsidiary risks: -

ADR-S.P.: 163 640E 650

ADR-Tunnel Restriction Code: (D/E)

IATA-Passenger Aircraft: 355

IATA-Subsidiary risks: -

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IATA-Cargo Aircraft: 366
IATA-S.P.: A3 A72
IATA-ERG: 3L
IMDG-EmS: F-E , S-E
IMDG-Subsidiary risks: -
IMDG-Storage category: Category A
IMDG-Storage notes: -

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 67/548/EEC (Classification, packaging and labelling of dangerous substances)
Dir. 1999/45/EC (Classification, packaging and labelling of dangerous preparations)
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Dir. 2006/8/EC
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 453/2010 (Annex I)
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)

Volatile Organic compounds - VOCs = 57.11 %

Volatile CMR substances = 0.00 %

Halogenated VOCs which are assigned the risk phrase R40 = 0.00 %

Where applicable, refer to the following Italian regulatory provisions :

Directive 82/501/EEC ('Activities linked to risks of serious accidents') and subsequent amendments.

1999/13/EC (VOC directive)

15.2. Chemical safety assessment

No

SECTION 16: Other information

Text of phrases referred to under heading 3:

R10 Flammable.

R11 Highly flammable.

R20/21 Harmful by inhalation and in contact with skin.

R34 Causes burns.

R36/37/38 Irritating to eyes, respiratory system and skin.

R37 Irritating to respiratory system.

R37/38 Irritating to respiratory system and skin.

R43 May cause sensitization by skin contact.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R60 May impair fertility.

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R61 May cause harm to the unborn child.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.
R68 Possible risk of irreversible effects.

H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H317 May cause an allergic skin reaction.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H225 Highly flammable liquid and vapour.
H314 Causes severe skin burns and eye damage.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H341 Suspected of causing genetic defects.
H360FD May damage fertility. May damage the unborn child.
EUH066 Repeated exposure may cause skin dryness or cracking.

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification
SECTION 3: Composition/information on ingredients
SECTION 8: Exposure controls/personal protection
SECTION 11: Toxicological information
SECTION 12: Ecological information
SECTION 15: Regulatory information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
Nostrand Reinold
CCNL - Appendix 1 "TLV for 1989-90"

Safety data sheets of raw materials suppliers.

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
CLP: Classification, Labeling, Packaging.
DNEL: Derived No Effect Level.
EINECS: European Inventory of Existing Commercial Chemical Substances.
GefStoffVO: Ordinance on Hazardous Substances, Germany.

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GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
LTE:	Long-term exposure.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STE:	Short-term exposure.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWATLV:	Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
WGK:	German Water Hazard Class.
N.A.	Not Applicable / Not Available