# Safety Data Sheet according to (EC) No 1907/2006 as amended



LOCTITE ABLESTIK FDA 2-H known as TRA-BOND FDA2 BIPAX 2,2 GR - H

SDS No. : 376858
V004.0
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

LOCTITE ABLESTIK FDA 2-H known as TRA-BOND FDA2 BIPAX 2,2 GR - H
UFI: H32U-RWSU-V205-VWV2

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

Intended use:
Hardener

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

Henkel AG & Co. KGaA
Henkelstr. 67
40589 Düsseldorf

Germany

Phone: +49 211 797 0

SDSinfo.Adhesive@henkel.com
For Safety Data Sheet updates please visit our website www.mysds.henkel.com or www.henkel-adhesives.com.

### 1.4. Emergency telephone number

The Henkel information service also provides an around-the-clock telephone service on phone no.+49-(0)211-797-3350 for exceptional cases.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification (CLP):**

| | |
|---|---|
| Skin corrosion | Sub-category 1B |
| H314 Causes severe skin burns and eye damage. | |
| Serious eye damage | Category 1 |
| H318 Causes serious eye damage. | |
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| Acute hazards to the aquatic environment | Category 1 |
| H400 Very toxic to aquatic life. | |
| Chronic hazards to the aquatic environment | Category 1 |
| H410 Very toxic to aquatic life with long lasting effects. | |

### 2.2. Label elements

**Label elements (CLP):**

| | |
|---|---|
| **Hazard pictogram:** |  |
| **Contains** | Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br><br>Amines, polyethylenepoly-, triethylenetetramine fraction |
| **Signal word:** | Danger |
| **Hazard statement:** | H314 Causes severe skin burns and eye damage.<br>H317 May cause an allergic skin reaction.<br>H410 Very toxic to aquatic life with long lasting effects. |
| **Precautionary statement: Prevention** | P273 Avoid release to the environment.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection. |
| **Precautionary statement: Response** | P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].<br>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P310 Immediately call a POISON CENTER or doctor.<br>P333+P313 If skin irritation or rash occurs: Get medical advice/attention. |

### 2.3. Other hazards

None if used properly.

**Following substances are present in a concentration ≥ the concentration limit for depiction in Section 3 and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**

None

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

**Declaration of the ingredients according to CLP (EC) No 1272/2008:**

| Hazardous components<br>CAS No.<br>EC No<br>REACH-Reg. No. | Concentration | Classification | Specific Conc. Limits, M-factors and ATEs | Add. Information |
|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7<br>500-381-8 | 50- < 100 % | Eye Dam. 1, H318<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | M acute = 1<br>M chronic = 1 | |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8<br>292-588-2<br>01-2119487919-13 | 5- < 10 % | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314<br>Skin Sens. 1, H317<br>Eye Dam. 1, H318<br>Aquatic Chronic 3, H412 | | |

**If no ATE values are displayed, please refer to LD/LC50 values in Section 11.**
**For full text of the H - statements and other abbreviations see section 16 "Other information".**

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

Skin contact:
Rinse with running water and soap.
Obtain medical attention if irritation persists.

Eye contact:
Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:
Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

### 4.2. Most important symptoms and effects, both acute and delayed
SKIN: Rash, Urticaria.

Causes burns.

### 4.3. Indication of any immediate medical attention and special treatment needed
See section: Description of first aid measures

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media
**Suitable extinguishing media:**
water, carbon dioxide, foam, powder

**Extinguishing media which must not be used for safety reasons:**
High pressure waterjet

### 5.2. Special hazards arising from the substance or mixture
In the event of a fire, carbon monoxide (CO), carbon dioxide (CO2) and nitrogen oxides (NOx) can be released.

**5.3. Advice for firefighters**
Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

**Additional information:**
In case of fire, keep containers cool with water spray.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
Avoid contact with skin and eyes.
Wear protective equipment.
Ensure adequate ventilation.
Keep away from sources of ignition.

**6.2. Environmental precautions**
Do not empty into drains / surface water / ground water.

**6.3. Methods and material for containment and cleaning up**
Dispose of contaminated material as waste according to Section 13.
For small spills wipe up with paper towel and place in container for disposal.
For large spills absorb onto inert absorbent material and place in sealed container for disposal.

**6.4. Reference to other sections**
See advice in section 8

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
Avoid skin and eye contact.
See advice in section 8

Hygiene measures:
Good industrial hygiene practices should be observed.
Wash hands before work breaks and after finishing work.
Do not eat, drink or smoke while working.

**7.2. Conditions for safe storage, including any incompatibilities**
Ensure good ventilation/extraction.
Keep container tightly sealed.
Store at room temperature.
Refer to Technical Data Sheet.

**7.3. Specific end use(s)**
Hardener

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

**Occupational Exposure Limits**

Valid for
Germany

None

**Predicted No-Effect Concentration (PNEC):**

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | mg/l | ppm | mg/kg | others | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | aqua (freshwater) | | 0,004 mg/l | | | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | Freshwater - intermittent | | 0,043 mg/l | | | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | aqua (marine water) | | 0 mg/l | | | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | sewage treatment plant (STP) | | 3,84 mg/l | | | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | sediment (freshwater) | | | | 434,02 mg/kg | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | sediment (marine water) | | | | 43,4 mg/kg | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | Soil | | | | 86,78 mg/kg | | |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | Predator | | | | | | no potential for bioaccumulation |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | aqua (intermittent releases) | | 0,2 mg/l | | | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | aqua (freshwater) | | 0,027 mg/l | | | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | aqua (marine water) | | 0,003 mg/l | | | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | sediment (freshwater) | | | | 8,572 mg/kg | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | sediment (marine water) | | | | 0,857 mg/kg | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | Soil | | | | 1,25 mg/kg | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | sewage treatment plant (STP) | | 0,13 mg/l | | | | |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | oral | | | | | | no potential for bioaccumulation |

**Derived No-Effect Level (DNEL):**

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|---|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | Workers | Inhalation | Long term exposure - systemic effects | | 0,54 mg/m3 | no potential for bioaccumulation |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | General population | Inhalation | Long term exposure - systemic effects | | 0,096 mg/m3 | no potential for bioaccumulation |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | General population | oral | Long term exposure - systemic effects | | 0,14 mg/kg | no potential for bioaccumulation |

**Biological Exposure Indices:**
None

**8.2. Exposure controls:**

Engineering controls:
Ensure good ventilation/extraction.

Respiratory protection:
Ensure adequate ventilation.
An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area
Filter type: A (EN 14387)

Hand protection:
Chemical-resistant protective gloves (EN 374).
Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):
nitrile rubber (NBR; >= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:
Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Protective eye equipment should conform to EN166.

Skin protection:
Wear suitable protective clothing.
Protective clothing should conform to EN 14605 for liquid splashes or to EN 13982 for dusts.

Advices to personal protection equipment:

The information provided on personal protective equipment is for guidance purposes only. A full risk assessment should be conducted prior to using this product to determine the appropriate personal protective equipment to suit local conditions. Personal protective equipment should conform to the relevant EN standard.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| Delivery form | liquid |
| Colour | Amber |

| | |
|---|---|
| Odor | Amine |
| Physical state | liquid |
| Melting point | Not applicable, Product is a liquid |
| Solidification temperature | < 10 °C (< 50 °F) |
| Initial boiling point | > 200 °C (> 392 °F) |
| Flammability | Not applicable<br>Non flammable product (flash point is greater than 93°C) |
| Explosive limits | Not applicable, The product is not flammable. |
| Flash point | > 293 °C (> 559.4 °F); Cleveland open cup |
| Auto-ignition temperature | > 300 °C (> 572 °F) |
| Decomposition temperature | > 350 °C (> 662 °F); |
| pH | Not applicable, Product is non-soluble (in water). |
| Viscosity (kinematic)<br>(25 °C (77 °F); ) | 3.150 mm2/s |
| Solubility (qualitative)<br>(20 °C (68 °F); Solvent: Water) | Partially soluble |
| Partition coefficient: n-octanol/water | Not applicable<br>Mixture |
| Vapour pressure<br>(20 °C (68 °F)) | < 1 kPa |
| Density<br>(25 °C (77 °F)) | 0,98 g/cm3 no method / method unknown |
| Relative vapour density:<br>(20 °C) | 0,98 |
| Particle characteristics | Not applicable<br>Product is a liquid |

**9.2. Other information**

Other information not applicable for this product

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
Reacts with strong oxidants.
Acids.
Strong bases.

**10.2. Chemical stability**
Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**
See section reactivity

**10.4. Conditions to avoid**
Stable under normal conditions of storage and use.

**10.5. Incompatible materials**
See section reactivity.

**10.6. Hazardous decomposition products**
Rapid polymerisation may generate excessive heat and pressure.
May produce fumes when heated to decomposition. Fumes may contain carbon monoxide and other toxic fumes.

## SECTION 11: Toxicological information

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

**Acute oral toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

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

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | LD50 | 1.716 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |

**Acute dermal toxicity:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

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

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | LD50 | 1.465 mg/kg | rabbit | OECD Guideline 402 (Acute Dermal Toxicity) |

**Acute inhalative toxicity:**

No data available.

**Skin corrosion/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | corrosive | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |

**Serious eye damage/irritation:**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Exposure time | Species | Method |
|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | Category 1 (irreversible effects on the eye) | | rabbit | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

**Respiratory or skin sensitization:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

| Hazardous substances CAS-No. | Result | Test type | Species | Method |
|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | Sensitizing | Buehler test | guinea pig | equivalent or similar to OECD Guideline 406 (Skin Sensitisation) |

**Germ cell mutagenicity:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | positive | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | negative | in vitro mammalian cell micronucleus test | with and without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | negative | intraperitoneal | | mouse | equivalent or similar to OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |

**Carcinogenicity**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|---|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | not carcinogenic | dermal | lifetime three times/w | mouse | male | equivalent or similar OECD Guideline 451 (Carcinogenicity Studies) |

**Reproductive toxicity:**

No data available.

**STOT-single exposure:**

No data available.

**STOT-repeated exposure:**

The mixture is classified based on threshold limits referring to the classified substances present in the mixture.

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

| Hazardous substances<br>CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|---|---|---|---|---|
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | LOAEL 50 mg/kg | oral: gavage | 26 w<br>daily | rat | equivalent or similar to OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

**11.2.1 Endocrine disrupting properties**

No substance data available.

No data available.

## SECTION 12: Ecological information

**General ecological information:**

Do not empty into drains / surface water / ground water.

**12.1. Toxicity**

**Toxicity (Fish):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | LL50 | > 0,15 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | NOELR | 0,1 mg/l | 34 d | Oncorhynchus mykiss | OECD Guideline 210 (fish early life stage toxicity test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | LC50 | 330 mg/l | 96 h | Pimephales promelas | other guideline: |

**Toxicity (aquatic invertebrates):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | EC50 | 7,07 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | EC50 | 31 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

**Chronic toxicity (aquatic invertebrates):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | NOELR | 0,16 mg/l | 21 day | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Amines, polyethylenepoly-, | EC10 | 1,9 mg/l | 21 day | Daphnia magna | OECD Guideline 202 |

| | | | | | |
|---|---|---|---|---|---|
| triethylenetetramine fraction 90640-67-8 | | | | | (Daphnia sp. Chronic Immobilisation Test) |

**Toxicity (Algae):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| **Hazardous substances CAS-No.** | **Value type** | **Value** | **Exposure time** | **Species** | **Method** |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | EC50 | 0,15 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | EC10 | 0,022 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | EC50 | 20 mg/l | 72 h | Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction 90640-67-8 | EC10 | 1,34 mg/l | 72 h | Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata) | OECD Guideline 201 (Alga, Growth Inhibition Test) |

**Toxicity (microorganisms):**

The mixture is classified based on calculation method referring to the classified substances present in the mixture.

The table below presents the data of the classified substances present in the mixture.

| **Hazardous substances CAS-No.** | **Value type** | **Value** | **Exposure time** | **Species** | **Method** |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine 157707-72-7 | EC50 | 384 mg/l | 3 h | activated sludge of a predominantly domestic sewage | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |

**12.2. Persistence and degradability**

**Biodegradability (Screening Tests):**
The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|---|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | not readily biodegradable. | aerobic | 15 % | 28 day | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | not inherently biodegradable | aerobic | 19 % | 60 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | not readily biodegradable. | aerobic | 0 % | 162 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | not inherently biodegradable | aerobic | 20 % | 84 d | OECD Guideline 302 A (Inherent Biodegradability: Modified SCAS Test) |

No substance data available.

**(Bio)degradability (Simulation Tests):**
No data available.

**12.3. Bioaccumulative potential**

**Partition Coefficient (octanol/water)**
The table below presents the data of the classified substances present in the mixture.

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method |
|---|---|---|---|
| Fatty acids, C18-unsatd., dimers, oligomeric reaction products with fatty acids, C16-18 and C18-unsatd., branched and linear and triethylenetetramine<br>157707-72-7 | 10,34 | | QSAR (Quantitative Structure Activity Relationship) |
| Amines, polyethylenepoly-, triethylenetetramine fraction<br>90640-67-8 | -2,65 | | OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method) |

No substance data available.
**Bioconcentration factor (BCF)**
No data available.

**12.4. Mobility in soil**

No substance data available.

No data available.

**12.5. Results of PBT / vPvB / PMT / vPvM assessment**

**PBT/vPvB**
This mixture does not contain any substances that are assessed to be a PBT or vPvB.
Based on available data, the classification criteria are not met.

**PMT/vPvM**
This mixture does not contain any substances that are assessed to be a PMT or vPvM.
Based on available data, the classification criteria are not met.

**12.6. Endocrine disrupting properties**

No substance data available.

No data available.

**12.7. Other adverse effects**

No data available.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Product disposal:
Do not empty into drains / surface water / ground water.
Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:
After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code
08 04 09* waste adhesives and sealants containing organic solvents and other dangerous substances
The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

## SECTION 14: Transport information

**14.1. UN number or ID number**

| | |
|---|---|
| ADR | 3267 |
| RID | 3267 |
| ADN | 3267 |
| IMDG | 3267 |
| IATA | 2259 |

**14.2. UN proper shipping name**

| | |
|---|---|
| ADR | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (dimer fatty acid(C18)poly amido amine resin,Triethylenetetramine) |
| RID | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (dimer fatty acid(C18)poly amido amine resin,Triethylenetetramine) |
| ADN | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (dimer fatty acid(C18)poly amido amine resin,Triethylenetetramine) |
| IMDG | CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (dimer fatty acid(C18)poly amido amine resin,Triethylenetetramine) |
| IATA | Triethylenetetramine (solution) |

**14.3. Transport hazard class(es)**

| | |
|---|---|
| ADR | 8 |
| RID | 8 |
| ADN | 8 |
| IMDG | 8 |
| IATA | 8 |

**14.4. Packing group**

| | |
|---|---|
| ADR | II |
| RID | II |
| ADN | II |
| IMDG | II |
| IATA | II |

**14.5. Environmental hazards**

| | |
|---|---|
| ADR | Environmentally Hazardous |
| RID | Environmentally Hazardous |
| ADN | Environmentally Hazardous |
| IMDG | Marine Pollutant |
| IATA | not applicable |

**14.6. Special precautions for user**

| | |
|---|---|
| ADR | not applicable<br>Tunnelcode: (E) |
| RID | not applicable |
| ADN | not applicable |
| IMDG | not applicable |
| IATA | not applicable |

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

not applicable

## SECTION 15: Regulatory information

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

| | |
|---|---|
| Ozone Depleting Substance (ODS) (Regulation (EC) No 2024/590): | Not applicable |
| Prior Informed Consent (PIC) (Regulation (EU) No 649/2012): | Not applicable |
| Persistent organic pollutants (Regulation (EU) 2019/1021): | Not applicable |

| | |
|---|---|
| VOC content (2010/75/EC) | < 3 % |
| Seveso III (2012/18/EU): | E1, Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1 |

**National regulations/information (Germany):**

| | |
|---|---|
| WGK: | WGK 2: significantly water endangering (Ordinance on facilities for handling substances that are hazardous to water (AwSV) )<br>Classification according to AwSV, Annex 1 (5.2) |
| Storage class according to TRGS 510: | 8B |

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

## SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text
of all abbreviations indicated by codes in this safety data sheet are as follows:

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Abbreviations and acronyms:

ADG(-Code): Australian Dangerous Goods (Code)
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM: American Society for Testing and Materials
ATE: acute toxicity estimate
AS: Australian Standard
AwSV: Ordinance on Installations for the Handling of Substances Hazardous to Water
CAS: Chemical Abstract Service
CLP: Regulation (EC) No 1272/2008
CMR: cancerogenic, mutagenic or reprotoxic
DIN: German Institute for Standardization
ECx: Effective concentration (x% effective level)
ECHA: European Chemicals Agency
EC-Nummer: Substance number in the EU-inventories EINECS/ELINCS
ECTLV: European community threshold limit value
ED:Substance identified as having endocrine disrupting properties
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EN : European Standard
ENCS: Japanese chemical inventory
EPA: US Environmental Protection Agency
EU: European Union
EU EXPLD1: Substance listed in Annex I, Reg (EC) No. 2019/1148
EU EXPLD2: Substance listed in Annex II, Reg (EC) No. 2019/1148
EWC: European Waste Catalogue
GHS: Globally Harmonised System for Classification and Labelling of Chemicals
GLP: Good Laboratory Practice
HSNO: Hazardous Substances and New Organisms
IARC: International Agency for Research of Cancer
IATA: International Air Transport Association
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization
IMDG-Code: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization
ISO: International Standardization Organisation
LC50: Median lethal concentration
LD50: Median lethal dose
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
n.o.s.: not otherwise specified
NO(A)EC: No (adverse) effect concentration
NO(A)EL: No (adverse) effect level
NZS: New Zealand Standard
OECD: Organisation for Economic Co-operation and Development
OEL: Occupational Exposure Limit
OPPT: US EPA Office of Pollution Prevention and Toxics
OPPTS: US EPA Office of Prevention, Pesticides and Toxic Substances
PBT: Persistent, bioaccumulative, toxic
PMT: Persistent, mobile and toxic
(Q)SAR: (Quantitative) structure–activity relationship

REACH: Regulation (EC) No. 1907/2006
RID: Regulations concerning the International Transport of Dangerous Goods by Rail
SADT: Self Accelerating Decomposition Temperature
SDS: Safety Data Sheet
STOT: Specific Target Organ Toxicity
STOT SE: Specific Target Organ Toxicity - single exposure
STOT RE: Specific Target Organ Toxicity - repeated exposure
SUSMP: Standard for the Uniform Scheduling of Medicines and Poisons
SVHC: Substance of very high concern (REACH Candidate List)
TRGS: German Technical Rules for hazardous substances
UN: United Nations
VOC: Volatile Organic Compound
814.018 VOC Reg CH: Swiss Ordinance 814.018 on the Incentive Tax on Volatile Organic Compounds
vPvB: Very persistent, very bioaccumulative
vPvM: Very persistent and very mobile
VwVwS: Administrative Regulation on Substances Hazardous to Waters
WGK: Water hazard class

**Further information:**

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