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



LOCTITE EA 9321 AERO PART A 55GAL known as EA 9321 PART A 55 GALLON

SDS No.: 276276
V008.1
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**1.1. Product identifier**
LOCTITE EA 9321 AERO PART A 55GAL known as EA 9321 PART A 55 GALLON

**1.2. Relevant identified uses of the substance or mixture and uses advised against**
Intended use:
Part A of 2-K-Epoxy Adhesive

**1.3. Details of the supplier of the safety data sheet**
Henkel Ltd
Adhesives
Wood Lane End
HP2 4RQ Hemel Hempstead

Great Britain

Phone: +44 (1442) 278000

ua-productsafety.uk@henkel.com
For Safety Data Sheet updates please visit our website https://mysds.henkel.com/index.html#/appSelection or www.henkel-adhesives.com.

**1.4. Emergency telephone number**
24 Hours Emergency Tel: +44 (0)1442 278497

## SECTION 2: Hazards identification

**2.1. Classification of the substance or mixture**

**Classification (CLP):**

| | |
|---|---|
| Skin sensitizer | Category 1 |
| H317 May cause an allergic skin reaction. | |
| Germ cell mutagenicity | Category 2 |
| H341 Suspected of causing genetic defects. | |
| Specific target organ toxicity - repeated exposure | Category 2 |
| H373 May cause damage to organs through prolonged or repeated exposure. | |
| Chronic hazards to the aquatic environment | Category 2 |
| H411 Toxic to aquatic life with long lasting effects. | |

**2.2. Label elements**

**Label elements (CLP):**

**Hazard pictogram:**

**Contains** Triglycidyl-p-aminophenol

Bisphenol-F epichlorhydrin resin; MW<700
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)

**Signal word:** Danger

**Hazard statement:**
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statement: Prevention**
P280 Wear protective gloves/protective clothing.
P273 Avoid release to the environment.

**Precautionary statement: Response**
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

### 2.3. Other hazards

None if used properly.
Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

**Following substances are present in a concentration >= 0,1% and fulfill the criteria for PBT/vPvB, or were identified as endocrine disruptor (ED):**

This mixture does not contain any substances in concentration ≥ the concentration limit that are assessed to be a PBT, vPvB or ED.

## 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 Number<br>REACH-Reg No. | Concentration | Classification | Specific Conc. Limits, M-factors and ATEs | Add. Information |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4<br>225-716-2<br>01-2119954405-36 | 25- 50 % | Acute Tox. 4, Oral, H302<br>Skin Sens. 1A, H317<br>Muta. 2, H341<br>STOT RE 2, Oral, H373<br>Aquatic Chronic 2, H411 | dermal:ATE = 4.001 mg/kg | |
| aluminium powder (stabilised)<br>7429-90-5<br>231-072-3<br>01-2119529243-45 | 20- 40 % | Water-react. 2, H261<br>Flam. Sol. 1, H228 | | EUEXPL2D |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5<br>01-2119454392-40 | 5- < 10 % | Skin Irrit. 2, Dermal, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 | | |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | 0,1- < 1 % | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411<br>Eye Irrit. 2, H319 | Eye Irrit. 2; H319; C >= 5 %<br>Skin Irrit. 2; H315; C >= 5 % | |

**For full text of the H - statements and other abbreviations see section 16 "Other information".**
**Substances without classification may have community workplace exposure limits available.**

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

Inhalation:
Move to fresh air, consult doctor if complaint persists.

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

Eye contact:
Wash with plenty of water immediately and continue for several minutes, holding eyelid open. Consult a doctor.

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.

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

**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:**
Foam, extinguishing powder, carbon dioxide.
Fine water spray

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

**5.2. Special hazards arising from the substance or mixture**
Danger of decomposition if exposed to heat.
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.
Ensure adequate ventilation.
Wear protective equipment.

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

**6.3. Methods and material for containment and cleaning up**
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.
Dispose of contaminated material as waste according to Section 13.

**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.
Ensure good ventilation/suction at the workplace.
See advice in section 8
Do not spray against flames or glowing bodies. Keep away from sources of ignition - no smoking.

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

**7.2. Conditions for safe storage, including any incompatibilities**
Store in sealed original container.
Store in a cool, dry place.
Ensure that storage and workrooms are adequately ventilated.
Must be stored in a room with spill collection facilities.
Keep away from heat and direct sunlight.
Refer to Technical Data Sheet

**7.3. Specific end use(s)**
Part A of 2-K-Epoxy Adhesive

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational Exposure Limits**

Valid for
Great Britain

| Ingredient [Regulated substance] | ppm | mg/m$^3$ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|---|---|---|---|---|
| Aluminium<br>7429-90-5<br>[ALUMINIUM METAL, INHALABLE DUST] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |
| Aluminium<br>7429-90-5<br>[ALUMINIUM METAL, RESPIRABLE DUST] | | 4 | Time Weighted Average (TWA): | | EH40 WEL |
| Silicon dioxide<br>7631-86-9<br>[Dust, respirable dust] | | 4 | Time Weighted Average (TWA): | | EH40 WEL |
| Silicon dioxide<br>7631-86-9<br>[Dust, inhalable dust] | | 10 | Time Weighted Average (TWA): | | EH40 WEL |

**Occupational Exposure Limits**

Valid for
Ireland

| Ingredient [Regulated substance] | ppm | mg/m$^3$ | Value type | Short term exposure limit category / Remarks | Regulatory list |
|---|---|---|---|---|---|
| Aluminium<br>7429-90-5<br>[ALUMINIUM METAL] | | 1 | Time Weighted Average (TWA): | | IR_OEL |
| Silicon dioxide<br>7631-86-9<br>[SILICA, AMORPHOUS] | | 6 | Time Weighted Average (TWA): | | IR_OEL |
| Silicon dioxide<br>7631-86-9<br>[SILICA, AMORPHOUS] | | 2,4 | Time Weighted Average (TWA): | | IR_OEL |

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

| Name on list | Environmental Compartment | Exposure period | Value | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | mg/l | ppm | mg/kg | others | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | aqua (freshwater) | | 0,008 mg/l | | | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | aqua (marine water) | | 0,001 mg/l | | | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | sediment (freshwater) | | | | 0,101 mg/kg | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | sediment (marine water) | | | | 0,01 mg/kg | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | Air | | | | | | no hazard identified |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | Soil | | | | 0,015 mg/kg | | |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | aqua (intermittent releases) | | 0,042 mg/l | | | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | aqua (freshwater) | | 0,003 mg/l | | | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | aqua (marine water) | | 0,0003 mg/l | | | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | sewage treatment plant (STP) | | 10 mg/l | | | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | sediment (freshwater) | | | | 0,294 mg/kg | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | sediment (marine water) | | | | 0,0294 mg/kg | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Soil | | | | 0,237 mg/kg | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | aqua (intermittent releases) | | 0,0254 mg/l | | | | |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Air | | | | | | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Predator | | | | | | no potential for bioaccumulation |

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

| Name on list | Application Area | Route of Exposure | Health Effect | Exposure Time | Value | Remarks |
|---|---|---|---|---|---|---|
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | Workers | inhalation | Long term exposure - systemic effects | | 1,752 mg/m3 | no hazard identified |
| p-(2,3-Epoxypropoxy)-N,N-bis(2,3-epoxypropyl)aniline 5026-74-4 | Workers | dermal | Long term exposure - systemic effects | | 0,5 mg/kg | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Workers | Inhalation | Long term exposure - systemic effects | | 29,39 mg/m3 | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Workers | dermal | Long term exposure - systemic effects | | 104,15 mg/kg | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | Workers | dermal | Acute/short term exposure - local effects | | 0,0083 mg/cm2 | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | General population | Inhalation | Long term exposure - systemic effects | | 8,7 mg/m3 | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | General population | dermal | Long term exposure - systemic effects | | 62,5 mg/kg | no hazard identified |
| Reaction product: bisphenol-F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) (old) 9003-36-5 | General population | oral | Long term exposure - systemic effects | | 6,25 mg/kg | no hazard identified |

**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**

| | |
|---|---|
| Physical state | liquid |
| Delivery form | paste |
| Colour | Gray |
| Odor | Epoxy |
| Solidification temperature | -25 °C (-13 °F) |
| Initial boiling point | > 200 °C (> 392 °F) |
| Flammability | The product is not flammable. |
| Explosive limits | The product is not flammable. |
| Flash point | > 93 °C (> 199.4 °F) |
| Auto-ignition temperature | > 200 °C (> 392 °F) |
| Decomposition temperature | > 200 °C (> 392 °F); |
| pH | Product is non-soluble (in water)., Not applicable |
| Viscosity (kinematic)<br>(40 °C (104 °F); ) | > 20 mm2/s |
| Solubility (qualitative)<br>(20 °C (68 °F); Solvent: Water) | Not soluble |
| Solubility (qualitative)<br>(20 °C (68 °F); Solvent: ketones) | Partially miscible |
| Vapour pressure<br>(20 °C (68 °F)) | < 0,1 hPa |
| Density<br>(20 °C (68 °F)) | 1 g/cm3 no method |
| Relative vapour density: | > 1 |

**9.2. Other information**
Other information not applicable for this product

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
Strong oxidizing agents.
Reacts with alcohols and amines.
Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

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

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

**10.4. Conditions to avoid**
Danger of decomposition if exposed to heat.
Avoid mixing resin (Part A) and curing agent (Part B) unless you plan to use immediately.
Failure to observe these precautions may result in excessive heat build-up causing an exotherm.

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

**10.6. Hazardous decomposition products**
Hydrocarbons
Irritating vapors.
Polymerization may occur at elevated temperature or in the presence of incompatible materials.
At higher temperature carbon oxides and nitrogen oxides may be generated.
See section 5.

## SECTION 11: Toxicological information

**1.1 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.

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | LD50 | 1.037 mg/kg | rat | OECD Guideline 401 (Acute Oral Toxicity) |
| aluminium powder (stabilised)<br>7429-90-5 | LD50 | > 15.900 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | LD50 | > 5.000 mg/kg | rat | equivalent or similar to OECD Guideline 401 (Acute Oral Toxicity) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 420 (Acute Oral Toxicity) |

**Acute dermal toxicity:**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Species | Method |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | LD0 | > 4.000 mg/kg | rat | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| Triglycidyl-p-aminophenol<br>5026-74-4 | Acute toxicity estimate (ATE) | 4.001 mg/kg | | Expert judgement |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | LD50 | > 2.000 mg/kg | rat | equivalent or similar to OECD Guideline 402 (Acute Dermal Toxicity) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | LD50 | > 2.000 mg/kg | rat | OECD Guideline 402 (Acute Dermal Toxicity) |

**Acute inhalative toxicity:**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Test atmosphere | Exposure time | Species | Method |
|---|---|---|---|---|---|---|
| aluminium powder (stabilised)<br>7429-90-5 | LC50 | > 5 mg/l | dust/mist | 4 h | rat | not specified |

**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 |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | not irritating | | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| aluminium powder (stabilised)<br>7429-90-5 | not irritating | 24 h | rabbit | OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | irritating | 4 h | rabbit | equivalent or similar to OECD Guideline 404 (Acute Dermal Irritation / Corrosion) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | not irritating | 4 h | rabbit | not specified |

**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 |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | slightly irritating | 30 s | rabbit | EPA OPP 81-4 (Acute Eye Irritation) |
| aluminium powder (stabilised)<br>7429-90-5 | not irritating | | rabbit | FDA Guideline |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | not irritating | | rabbit | equivalent or similar to OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | not irritating | | rabbit | 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<br>CAS-No. | Result | Test type | Species | Method |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| aluminium powder (stabilised)<br>7429-90-5 | not sensitising | Draize Test | guinea pig | Draize Test |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |

**Germ cell mutagenicity:**

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

| Hazardous substances CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol 5026-74-4 | positive | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Triglycidyl-p-aminophenol 5026-74-4 | positive | in vitro mammalian chromosome aberration test | with and without | | OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| aluminium powder (stabilised) 7429-90-5 | positive | in vitro mammalian cell micronucleus test | without | | OECD Guideline 487 (In vitro Mammalian Cell Micronucleus Test) |
| aluminium powder (stabilised) 7429-90-5 | positive | in vitro mammalian chromosome aberration test | without | | equivalent or similar to OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) |
| aluminium powder (stabilised) 7429-90-5 | negative | mammalian cell gene mutation assay | with and without | | OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 | positive | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay) |
| Triglycidyl-p-aminophenol 5026-74-4 | negative | oral: gavage | | mouse | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| aluminium powder (stabilised) 7429-90-5 | negative | oral: gavage | | rat | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| aluminium powder (stabilised) 7429-90-5 | ambiguous | oral: gavage | | rat | OECD Guideline 475 (Mammalian Bone Marrow Chromosome Aberration Test) |
| Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 | negative | oral: gavage | | mouse | OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) |
| Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 | negative | oral: gavage | | rat | OECD Guideline 486 (Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells in vivo) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | negative | oral: gavage | | mouse | not specified |

**Carcinogenicity**

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

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Sex | Method |
|---|---|---|---|---|---|---|
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | not carcinogenic | dermal | 2 y daily | mouse | male | OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | not carcinogenic | oral: gavage | 2 y daily | rat | male/female | OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies) |

**Reproductive toxicity:**

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

| Hazardous substances CAS-No. | Result / Value | Test type | Route of application | Species | Method |
|---|---|---|---|---|---|
| aluminium powder (stabilised) 7429-90-5 | NOAEL P 1.000 mg/kg<br><br>NOAEL F1 1.000 mg/kg | screening | oral: gavage | rat | OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test) |
| Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 | NOAEL P > 750 mg/kg<br><br>NOAEL F1 750 mg/kg<br><br>NOAEL F2 750 mg/kg | two-generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | NOAEL P >= 50 mg/kg<br><br>NOAEL F1 >= 750 mg/kg<br><br>NOAEL F2 >= 750 mg/kg | Two generation study | oral: gavage | rat | OECD Guideline 416 (Two-Generation Reproduction Toxicity Study) |

**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.

| Hazardous substances CAS-No. | Result / Value | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol 5026-74-4 | NOAEL 50 mg/kg | oral: gavage | 28 d daily | rat | OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents) |
| Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5 | NOAEL 250 mg/kg | oral: gavage | 13 w daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700) 25068-38-6 | NOAEL 50 mg/kg | oral: gavage | 14 w daily | rat | OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents) |

**Aspiration hazard:**

No data available.

**11.2 Information on other hazards**

not applicable

## 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.

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | LC50 | 4,2 mg/l | 96 h | Cyprinus carpio | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | LC50 | 5,7 mg/l | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | LC50 | 1,75 mg/l | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |

**Toxicity (Daphnia):**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | EC50 | 18 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | EC50 | 2,55 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | EC50 | 1,7 mg/l | 48 h | Daphnia magna | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |

**Chronic toxicity to aquatic invertebrates**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | NOEC | 4,8 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | NOEC | 0,3 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | NOEC | 0,3 mg/l | 21 d | Daphnia magna | OECD 211 (Daphnia magna, Reproduction Test) |

**Toxicity (Algae):**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | EC50 | 13 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Triglycidyl-p-aminophenol<br>5026-74-4 | NOEC | 4,2 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | EC50 | 1,8 mg/l | 72 h | Pseudokirchneriella subcapitata | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | EC50 | > 11 mg/l | 72 h | Scenedesmus capricornutum | OECD Guideline 201 (Alga, Growth Inhibition Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | NOEC | 4,2 mg/l | 72 h | Scenedesmus capricornutum | OECD Guideline 201 (Alga, Growth Inhibition Test) |

**Toxicity to microorganisms**

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

| Hazardous substances<br>CAS-No. | Value type | Value | Exposure time | Species | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | EC10 | > 10 mg/l | 16 h | Pseudomonas putida | DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | IC50 | > 100 mg/l | 3 h | activated sludge, industrial | other guideline: |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | IC50 | > 100 mg/l | 3 h | activated sludge, industrial | other guideline: |

**12.2. Persistence and degradability**

The product is not biodegradable.

| Hazardous substances<br>CAS-No. | Result | Test type | Degradability | Exposure time | Method |
|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | not readily biodegradable. | aerobic | 0 - 10 % | 29 d | OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | not readily biodegradable. | aerobic | 0 % | 28 d | OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | not readily biodegradable. | aerobic | 5 % | 28 d | OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test) |

**12.3. Bioaccumulative potential**

No data available.

No substance data available.

**12.4. Mobility in soil**

Cured adhesives are immobile.

| Hazardous substances<br>CAS-No. | LogPow | Temperature | Method |
|---|---|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | 0,87 | 25 °C | QSAR (Quantitative Structure Activity Relationship) |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | 2,7 - 3,6 | | OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method) |
| reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight≤700)<br>25068-38-6 | 3,242 | 25 °C | EU Method A.8 (Partition Coefficient) |

**12.5. Results of PBT and vPvB assessment**

| Hazardous substances<br>CAS-No. | PBT/ vPvB |
|---|---|
| Triglycidyl-p-aminophenol<br>5026-74-4 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| aluminium powder (stabilised)<br>7429-90-5 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |
| Bisphenol-F epichlorhydrin resin; MW<700<br>9003-36-5 | Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria. |

**12.6. Endocrine disrupting properties**

not applicable

**12.7. Other adverse effects**

No data available.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Product disposal:
Collection and delivery to recycling enterprise or other registered elimination institution.
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**

| | |
|---|---|
| ADR | 3082 |
| RID | 3082 |
| ADN | 3082 |
| IMDG | 3082 |
| IATA | 3082 |

**14.2. UN proper shipping name**

| | |
|---|---|
| ADR | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol) |
| RID | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol) |
| ADN | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol) |
| IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Triglycidyl-p-aminophenol) |
| IATA | Environmentally hazardous substance, liquid, n.o.s. (Triglycidyl-p-aminophenol) |

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

| | |
|---|---|
| ADR | 9 |
| RID | 9 |
| ADN | 9 |
| IMDG | 9 |
| IATA | 9 |

**14.4. Packing group**

| | |
|---|---|
| ADR | III |
| RID | III |
| ADN | III |
| IMDG | III |
| IATA | III |

**14.5. Environmental hazards**

| | |
|---|---|
| ADR | not applicable |
| RID | not applicable |
| ADN | not applicable |
| IMDG | Marine pollutant |
| IATA | not applicable |

**14.6. Special precautions for user**

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

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

**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 1005/2009): | 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 % |

**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:

H228 Flammable solid.
H261 In contact with water releases flammable gas.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

| | |
|---|---|
| ED: | Substance identified as having endocrine disrupting properties |
| EU OEL: | Substance with a Union workplace exposure limit |
| EU EXPLD 1: | Substance listed in Annex I, Reg (EC) No. 2019/1148 |
| EU EXPLD 2 | Substance listed in Annex II, Reg (EC) No. 2019/1148 |
| SVHC: | Substance of very high concern (REACH Candidate List) |
| PBT: | Substance fulfilling persistent, bioaccumulative and toxic criteria |
| PBT/vPvB: | Substance fulfilling persistent, bioaccumulative and toxic plus very persistent and very bioaccumulative criteria |
| vPvB: | Substance fulfilling very persistent and very bioaccumulative criteria |

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