# Araldite® resins (modified epoxy resins), Grade 502Araldite® resins (modified epoxy resins), Grade 502

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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## SECTION 1: Identification

### 1.1. Identification

| | | |
|---|---|---|
| Product form | : | Mixture |
| Trade name | : | Araldite® resins (modified epoxy resins), Grade 502Araldite® resins (modified epoxy resins), Grade 502 |
| Product code | : | 00552 |
| Formula | : | no data |

### 1.2. Recommended use and restrictions on use

| | | |
|---|---|---|
| Recommended use | : | Use as laboratory reagent, Manufacture of substances |

### 1.3. Supplier

**Supplier**
Polysciences
400 Valley Road
Warrington, PA 18976 - United States
T +1 215 343 6484 - F +1 215 343 0214
info@polysciences.com - www.polysciences.com

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | 24-hour emergency phone number ChemTel 1-800-255-3924 |

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS US classification**

| | |
|---|---|
| Skin corrosion/irritation Category 2 | Causes skin irritation |
| Skin sensitization, category 1B | May cause an allergic skin reaction |

### 2.2. GHS Label elements, including precautionary statements

**GHS US labeling**

Hazard pictograms (GHS US) :

| | | |
|---|---|---|
| Signal word (GHS US) | : | Warning |
| Hazard statements (GHS US) | : | Causes skin irritation<br>May cause an allergic skin reaction |
| Precautionary statements (GHS US) | : | Avoid breathing dust/fume/gas/mist/vapors/spray.<br>Wash hands, forearms and face thoroughly after handling.<br>Contaminated work clothing must not be allowed out of the workplace.<br>Wear protective gloves/protective clothing/eye protection/face protection.<br>If on skin: Wash with plenty of water.<br>Specific treatment (see supplemental first aid instruction on this label) |

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name | Product identifier | % | GHS US classification |
|---|---|---|---|
| Bisphenol A-epichlorohydrin polymer | (CAS-No.) 25068-38-6 | 81 – 90 | Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 |
| Epichlorohydrin | (CAS-No.) 106-89-8 | 0 – 5 | Flam. Liq. 3, H226<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation), H331<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Skin Sens. 1, H317<br>Carc. 1B, H350<br>Aquatic Acute 3, H402 |

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth. Call a physician immediately.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapors/spray.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at room temp. Store locked up. Store in a well-ventilated place. Keep cool.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Araldite® resins (modified epoxy resins), Grade 502Araldite® resins (modified epoxy resins), Grade 502** | |
|---|---|
| No additional information available | |
| **Epichlorohydrin (106-89-8)** | |
| **USA - ACGIH - Occupational Exposure Limits** | |
| Local name | Epichlorohydrin |
| ACGIH TWA (ppm) | 0.5 ppm |
| Remark (ACGIH) | TLV® Basis: URT irr; male repro. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans) |
| ACGIH chemical category | Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans |
| Regulatory reference | ACGIH 2020 |
| **USA - OSHA - Occupational Exposure Limits** | |
| Local name | Epichlorohydrin |
| OSHA PEL (TWA) (mg/m³) | 19 mg/m³ |
| OSHA PEL (TWA) (ppm) | 5 ppm |
| Limit value category (OSHA) | prevent or reduce skin absorption |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1 |
| **USA - IDLH - Occupational Exposure Limits** | |
| US IDLH (ppm) | 75 ppm |
| **Bisphenol A-epichlorohydrin polymer (25068-38-6)** | |
| No additional information available | |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

**Hand protection:**

Protective gloves

**Eye protection:**

Safety glasses

**Skin and body protection:**

Wear suitable protective clothing

**Respiratory protection:**

In case of insufficient ventilation, wear suitable respiratory equipment

**Personal protective equipment symbol(s):**

## SECTION 9: Physical and chemical properties

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

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Appearance | : | light colored liquid slight aromatic odor. |
| Color | : | Mixture contains one or more component(s) which have the following colour(s):<br>Colorless |
| Odor | : | There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.<br>Mixture contains one or more component(s) which have the following odour:<br>chloroform-like |
| Odor threshold | : | No data available |
| pH | : | no data |
| Melting point | : | no data |
| Freezing point | : | No data available |
| Boiling point | : | > ≥ 392 |
| Flash point | : | 400 |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | Not applicable. |
| Vapor pressure | : | no data |
| Relative vapor density at 20°C | : | no data |
| Relative density | : | No data available |
| Solubility | : | No data available |
| Partition coefficient n-octanol/water (Log Pow) | : | No data available |
| Auto-ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | No data available |
| Explosion limits | : | No data available |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

| Araldite® resins (modified epoxy resins), Grade 502Araldite® resins (modified epoxy resins), Grade 502 | |
|---|---|
| LD50 oral rat | 5 – 8 µg/kg g/Kg (component) |
| LD50 dermal rabbit | 4 – 6 ml/kg g/Kg (component) |

| Epichlorohydrin (106-89-8) | |
|---|---|
| LD50 oral rat | 90 mg/kg |
| LD50 dermal rabbit | 515 mg/kg |
| LC50 Inhalation - Rat | 0.95 mg/l/4h |

| Bisphenol A-epichlorohydrin polymer (25068-38-6) | |
|---|---|
| LD50 oral rat | 11400 mg/kg |

Skin corrosion/irritation : Causes skin irritation.
pH: no data

Serious eye damage/irritation : Not classified
pH: no data

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

| Epichlorohydrin (106-89-8) | |
|---|---|
| IARC group | 2A - Probably carcinogenic to humans |
| National Toxicity Program (NTP) Status | Reasonably anticipated to be Human Carcinogen |
| In OSHA Hazard Communication Carcinogen list | Yes |

Reproductive toxicity : Not classified

| Epichlorohydrin (106-89-8) | |
|---|---|
| LOAEL (animal/male, F0/P) | 3.3 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 415 (One-Generation Reproduction Toxicity Study) |

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| Epichlorohydrin (106-89-8) | |
|---|---|
| LC50 fish 1 | 35 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static]) |
| EC50 Daphnia 1 | 24 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC50 fish 2 | 35 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [semi-static]) |

### 12.2. Persistence and degradability
No additional information available

### 12.3. Bioaccumulative potential

| Epichlorohydrin (106-89-8) | |
|---|---|
| Partition coefficient n-octanol/water (Log Pow) | 0.3 (at 20 °C) |

### 12.4. Mobility in soil
No additional information available

### 12.5. Other adverse effects
No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Transport document description : UN2023 Epichlorohydrin, 6.1 (3), II
UN-No.(DOT) : UN2023
Proper Shipping Name (DOT) : Epichlorohydrin
Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Packing group (DOT) : II - Medium Danger
Subsidiary risk (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 6.1 - Poison
3 - Flammable liquid


Marine pollutant : Yes (IMDG only)

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 243
DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group

| | | |
|---|---|---|
| DOT Special Provisions (49 CFR 172.102) | : | IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.<br>T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)<br>TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.<br>TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea. |
| DOT Packaging Exceptions (49 CFR 173.xxx) | : | 153 |
| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) | : | 5 L |
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : | 60 L |
| DOT Vessel Stowage Location | : | A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel. |
| DOT Vessel Stowage Other | : | 40 - Stow ‘‘clear of living quarters’’ |
| Emergency Response Guide (ERG) Number | : | 131P |
| Other information | : | No supplementary information available. |

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

| | | |
|---|---|---|
| Transport document description (IMDG) | : | UN 2023 EPICHLOROHYDRIN, 6.1 (3), II, MARINE POLLUTANT (32°C c.c.) |
| UN-No. (IMDG) | : | 2023 |
| Proper Shipping Name (IMDG) | : | EPICHLOROHYDRIN |
| Class (IMDG) | : | 6.1 - Toxic substances |
| Packing group (IMDG) | : | II - substances presenting medium danger |
| Subsidiary hazard (IMDG) | : | 3 - Flammable liquids |
| Limited quantities (IMDG) | : | 100 ml |
| Marine pollutant | : | Yes (IMDG only) |

### Air transport

| | | |
|---|---|---|
| Transport document description (IATA) | : | UN 2023 Epichlorohydrin, 6.1, II |
| UN-No. (IATA) | : | 2023 |
| Proper Shipping Name (IATA) | : | Epichlorohydrin |
| Class (IATA) | : | 6.1 - Toxic Substances |
| Packing group (IATA) | : | II - Medium danger |
| Subsidiary hazards (IATA) | : | 3 - Flammable Liquids |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| Epichlorohydrin (106-89-8) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory<br>Subject to reporting requirements of United States SARA Section 313<br>Listed on EPA Hazardous Air Pollutant (HAPS) | |
| CERCLA RQ | 100 lb |
| Section 302 EPCRA Reportable Quantity (RQ) | 100 lb |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 1000 lb |

| Bisphenol A-epichlorohydrin polymer (25068-38-6) | |
|---|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | XU - XU - indicates a substance exempt from reporting under the Chemical Data Reporting Rule, (40 CFR 711). |

## 15.2. International regulations

### CANADA

| Epichlorohydrin (106-89-8) | |
|---|---|
| Listed on the Canadian DSL (Domestic Substances List) | |
| Toxic Substance (CEPA – Schedule I) | Yes |

| Bisphenol A-epichlorohydrin polymer (25068-38-6) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

### EU-Regulations

| Epichlorohydrin (106-89-8) |
|---|
| Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances) |

| Bisphenol A-epichlorohydrin polymer (25068-38-6) |
|---|
| Listed on the EU NLP (No Longer Polymers) inventory |

### National regulations

| Epichlorohydrin (106-89-8) |
|---|
| Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)<br>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)<br>Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory<br>Listed on the Japanese ISHL (Industrial Safety and Health Law)<br>Listed on KECL/KECI (Korean Existing Chemicals Inventory)<br>Listed on NZIoC (New Zealand Inventory of Chemicals)<br>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)<br>Japanese Poisonous and Deleterious Substances Control Law<br>Japanese Pollutant Release and Transfer Register Law (PRTR Law)<br>Listed on INSQ (Mexican National Inventory of Chemical Substances)<br>Listed on CICR (Turkish Inventory and Control of Chemicals) |

| Bisphenol A-epichlorohydrin polymer (25068-38-6) |
|---|
| Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)<br>Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)<br>Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory<br>Listed on the Japanese ISHL (Industrial Safety and Health Law)<br>Listed on KECL/KECI (Korean Existing Chemicals Inventory)<br>Listed on NZIoC (New Zealand Inventory of Chemicals)<br>Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)<br>Listed on CICR (Turkish Inventory and Control of Chemicals)<br>Listed on the TCSI (Taiwan Chemical Substance Inventory) |

## 15.3. US State regulations

| Epichlorohydrin (106-89-8) | | | | | |
|---|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) | Maximum allowable dose level (MADL) |
| Yes | No | No | Yes | 9 µg/day | |

| Component | State or local regulations |
|---|---|
| Epichlorohydrin(106-89-8) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List; U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances; U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (GHS HazCom 2012)

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