# Material Safety Data Sheet

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## ARALDITE® MY 0510 US

## 1 . Product and company identification

**Product name** : **ARALDITE® MY 0510 US**
**Material uses** : Specialty for aerospace applications
**MSDS #** : 00059081
**Validation date** : 5/8/2013.
**Print date** : 5/8/2013.

**Supplier/Manufacturer** : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547

E-Mail: MSDS@huntsman.com

**In case of emergency** : Chemtrec: (800) 424-9300 or (703) 527-3887

## 2 . Hazards identification

**Physical state** : Liquid.
**Odor** : Slight
**Color** : Clear.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency overview** : WARNING!

CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED.

Do not breathe vapor or mist. Do not ingest. Do not get on skin or clothing. Avoid contact with eyes. Wash thoroughly after handling.

**See toxicological information (Section 11)**

**GENERAL INFORMATION** : Read the entire MSDS for a more thorough evaluation of the hazards.

## 3 . Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| Triglycidyl-p-aminophenol | 5026-74-4 | 60 - 100 |

# 4 . First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

# 5 . Fire-fighting measures

**Flash point** : Closed cup: 228°C (442.4°F) [EC A.9 Flash-Point (closed cup)]

**Hazardous thermal decomposition products** : No specific data.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# 6 . Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

# 7 . Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Do not store above the following temperature: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not cut or weld container. Do not heat in bulk-dangerous exothermic reaction may occur. Never use drum band heaters. Avoid hot spots. Keep away from heat sources, hot equipment, and sunlight. While thawing for use, do not exceed the maximum temperature of 100 deg. F.

# 8 . Exposure controls/personal protection

**Consult local authorities for acceptable exposure limits.**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL)

## 8 . Exposure controls/personal protection

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9 . Physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Color** : Clear.

**Odor** : Slight

**pH** : Not available.

**Boiling/condensation point** : Not available.

**Melting/freezing point** : -39°C (-38.2°F)

**Flash point** : Closed cup: 228°C (442.4°F) [EC A.9 Flash-Point (closed cup)]

**Flammable limits** : Not available.

**Auto-ignition temperature** : 410°C (770°F)

**Decomposition temperature** : >200°C (>392°F)

**Vapor pressure** : 0 kPa (0 mm Hg) [room temperature]

**Specific gravity** : 1.22

**Water solubility** : 3.34 g/l 20 deg C

**Partition coefficient: n-octanol/water (log Kow)** : 0.87

**Viscosity** : Kinematic (room temperature): 8.406 $cm^2/s$ (840.6 cSt) [OECD 114, DIN 53015 Hoeppler Falling Ball Viscometer]

**Density** : 1.205 to 1.225 $g/cm^3$ [25°C (77°F)]

**Vapor density** : Not available.

**Evaporation rate (butyl acetate = 1)** : Not available.

## 10 . Stability and reactivity

**Chemical stability** : The product is stable.

Hazardous reactions or instability may occur under certain conditions of storage or use.

**Hazardous polymerization** : Hazardous polymerization may occur under certain conditions of storage or use. Heating may cause a violent exothermic reaction.

**Conditions to avoid** : No specific data.

**Materials to avoid** : Heat, direct sunlight, acids, alkalines, hot spots. Do not use drum band heaters.

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

# 11 . Toxicological information

## Acute toxicity

| Product/ingredient name | Test | Endpoint | Species | Result |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol | OECD 402 Acute Dermal Toxicity | LD50 Dermal | Rat - Male, Female | >4000 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Mouse - Male, Female | 1413 mg/kg |
| | OECD 401 Acute Oral Toxicity | LD50 Oral | Rat - Male, Female | 1037 mg/kg |

## Irritation/Corrosion

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| Triglycidyl-p-aminophenol | EPA OPPTS EPA OTS 798.4500 | Rabbit | Eyes - Mild irritant |
| | EPA OPPTS OPPTS 870.2500 Acute Dermal Irritation | Rabbit | Skin - Irritant |

## Conclusion/ Summary

**Skin** : Irritating to skin.

Triglycidyl-p-aminophenol Irritating to skin.

**Eyes** : Slightly irritating to the eyes.

Triglycidyl-p-aminophenol Slightly irritating to the eyes.

**Respiratory** : Triglycidyl-p-aminophenol No known significant effects or critical hazards.

## Sensitizer

| Product/ingredient name | Test | Route of exposure | Species | Result |
|---|---|---|---|---|
| Triglycidyl-p-aminophenol | No official guidelines | skin | Guinea pig | Sensitizing |

## Mutagenicity

| Product/ingredient name | Test | Result |
|---|---|---|
| Triglycidyl-p-aminophenol | Experiment: In vitro<br>Subject: Bacteria | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Animal<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Mammalian-Human<br>Cell: Somatic<br>Metabolic activation: +/- | Positive |
| | Experiment: In vitro<br>Subject: Yeast<br>Metabolic activation: +/- | Positive |

## Potential acute health effects

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : Harmful if swallowed.

# 11 . Toxicological information

**Skin contact** : Irritating to skin. May cause sensitization by skin contact.

**Eye contact** : Irritating to eyes.

## Potential chronic health effects

**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Target organs** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Medical conditions aggravated by over-exposure**

Pre-existing skin disorders may be aggravated by over-exposure to this product.

# 12 . Ecological information

**Environmental effects** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. This product shows a low bioaccumulation potential. Water polluting material. May be harmful to the environment if released in large quantities.

## Aquatic ecotoxicity

| Product/ingredient name | Test | Endpoint | | Exposure | Species | Result | |
|---|---|---|---|---|---|---|---|
| Triglycidyl-p-aminophenol | OECD 201 Alga, Growth Inhibition Test | Acute | ErC50 (growth rate) | 72 hours Static | Algae | 13 | mg/l |
| | OECD 203 Fish, Acute Toxicity Test | Acute | LC50 | 96 hours Static | Fish | 4.2 | mg/l |
| | OECD 211 *Daphnia Magna* Reproduction Test | Chronic | NOEC | 21 days Semi-static | Daphnia | 0.42 | mg/l |
| | OECD 201 Alga, Growth Inhibition Test | Chronic | NOECr | 72 hours Static | Algae | 4.2 | mg/l |

## Persistence and degradability

| Product/ingredient name | Test | Period | Result |
|---|---|---|---|
| Triglycidyl-p-aminophenol | OECD 301B Ready Biodegradability - $CO_2$ Evolution Test | 29 days | 3.4 % |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Triglycidyl-p-aminophenol | Fresh water 0.18 days<br>Fresh water 0.16 days<br>Fresh water 2.2 days<br>Fresh water 2.3 days<br>Fresh water 2.6 days<br>Fresh water 0.24 days | - | - |

# 12 . Ecological information

**Bioaccumulative potential**

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Triglycidyl-p-aminophenol | 0.87 | - | low |

**Mobility in soil**

**Soil/water partition coefficient ($K_{OC}$)** : 84

**Other adverse effects** : No known significant effects or critical hazards.

**Other ecological information**

**BOD5** : Not Determined

**COD** : Not Determined

**TOC** : Not Determined

# 13 . Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

# 14 . Transport information

**Proper shipping name**

**DOT** : Environmentally hazardous substance, liquid, n.o.s. (triglycidyl-p-aminophenol) Marine pollutant

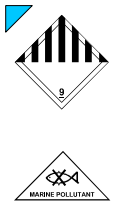
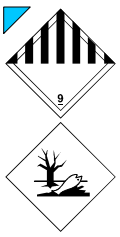
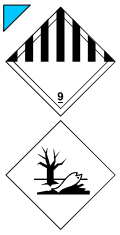
**TDG** : Environmentally hazardous substance, liquid, n.o.s. (triglycidyl-p-aminophenol) Marine pollutant

**IMDG** : Environmentally hazardous substance, liquid, n.o.s. (triglycidyl-p-aminophenol) Marine pollutant

**IATA** : Environmentally hazardous substance, liquid, n.o.s. (triglycidyl-p-aminophenol)

| Regulatory information | UN number | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|
| | | | | | |

# 14 . Transport information

| | | | | | |
|---|---|---|---|---|---|
| **DOT Classification** | UN3082 | 9 | III |  | Only regulated for bulk and vessel shipments, per 49CFR171.4 (c) Exceptions. Except when all or part of the transportation is by vessel, the requirements of this subchapter specific to marine pollutants do not apply to non-bulk packagings transported by motor vehicle, rail car or aircraft. |
| **TDG Classification** | UN3082 | 9 | III |   | - |
| **IMDG Class** | UN3082 | 9 | III |  | **Emergency schedules (EmS)** F-A, S-F |
| **IATA-DGR Class** | UN3082 | 9 | III |  | **Passenger and Cargo Aircraft** Quantity limitation: 450 L Packaging instructions: 964 **Cargo Aircraft Only** Quantity limitation: 450 L Packaging instructions: 964 |

PG* : Packing group

# 15 . Regulatory information

**United States**

**HCS Classification** : Irritating material
Sensitizing material

**U.S. Federal regulations**

**TSCA 8(b) inventory** : **United States inventory (TSCA 8b)**: This material is listed or exempted.

**TSCA 5(a)2 final significant new use rule (SNUR)** : No ingredients listed.

## 15 . Regulatory information

**TSCA 5(e) substance consent order** : No ingredients listed.

**TSCA 12(b) export notification** : Triglycidyl-p-aminophenol

**SARA 311/312** : Immediate (acute) health hazard

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : No ingredients listed.

**Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.

**SARA 313** : No ingredients listed.

**CERCLA Hazardous substances** : No ingredients listed.

**State regulations**

**PENNSYLVANIA - RTK** : No ingredients listed.

**California Prop 65** : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**International regulations**

**Canada**

**WHMIS (Canada)** : Class D-2B: Material causing other toxic effects (Toxic).

**CEPA DSL** : This material is listed or exempted.

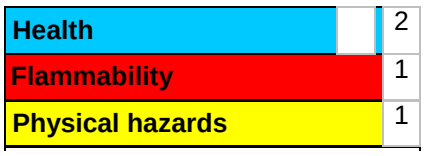
**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**

**International lists** :
**Australia inventory (AICS)**: This material is listed or exempted.
**China inventory (IECSC)**: This material is listed or exempted.
**Japan inventory**: This material is listed or exempted.
**Korea inventory**: This material is listed or exempted.
**Malaysia Inventory (EHS Register)**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: This material is listed or exempted.
**Philippines inventory (PICCS)**: This material is listed or exempted.
**Taiwan inventory (CSNN)**: Not determined.

## 16 . Other information

**Label requirements** : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. MAY BE HARMFUL IF SWALLOWED.

**Hazardous Material Information System (U.S.A.)** :

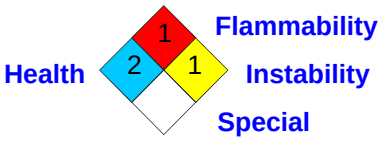


# 16 . Other information

**Personal protection**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)** :

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**Indicates information that has changed from previously issued version.**

**Notice to reader**

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