

ARALDITE® 2042 A US

Version 2.0 Revision Date: 07/20/2021 SDS Number: 400001012596 Date of last issue: 06/13/2017
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SECTION 1. IDENTIFICATION

Product name : ARALDITE® 2042 A US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : Non-Emergency: (800) 257-5547
E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com
Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Component of a Polyurethane System.

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Acute toxicity (Inhalation) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2B
Respiratory sensitisation : Category 1
Skin sensitisation : Category 1
Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

GHS label elementsHazard pictograms : 

Signal word : Danger

Hazard statements : H315 + H320 Causes skin and eye irritation.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing

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difficulties if inhaled.
 H335 May cause respiratory irritation.

Precautionary statements

: **Prevention:**

P261 Avoid breathing mist or vapours.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves.
 P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
 P362 Take off contaminated clothing and wash before reuse.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]	59675-67-1	90 - 100

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

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SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Do not leave the victim unattended.
Get medical attention immediately if symptoms occur.
Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.
- If inhaled : If breathed in, move person into fresh air.
Call a physician or poison control centre immediately.
Keep patient warm and at rest.
Keep respiratory tract clear.
If breathing is difficult, give oxygen.
If breathing is irregular or stopped, administer artificial respiration.
If unconscious, place in recovery position and seek medical advice.
Consult a physician immediately if symptoms such as shortness of breath or asthma are observed.
A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons.
The exposed person may need to be kept under medical surveillance for 48 hours.
LC50 (rat) : ca. 490 mg/m³ (4 hours) : using experimentally produced respirable aerosol having aerodynamic diameter <5microns.
Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

Call a physician or poison control centre immediately.
If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Take off contaminated clothing and shoes immediately.
Wash contaminated clothing before reuse.
Thoroughly clean shoes before reuse.
Call a physician if irritation develops or persists.

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An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water.

If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Protect unharmed eye.
Keep eye wide open while rinsing.
Seek medical advice.

Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Gently wipe or rinse the inside of the mouth with water.
DO NOT induce vomiting unless directed to do so by a physician or poison control center.
Keep respiratory tract clear.
Keep at rest.
If a person vomits when lying on his back, place him in the recovery position.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
If symptoms persist, call a physician.

Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Severe allergic skin reactions, bronchospasm and anaphylactic shock
This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation.
Symptoms may include irritation to the eyes, nose, throat and lungs, possibly combined with dryness of the throat, tightness of chest and difficulty in breathing.
The onset of the respiratory symptoms may be delayed for several hours after exposure.
A hyper-reactive response to even minimal concentrations of MDI may develop in sensitised persons.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
If potential for exposure exists refer to Section 8 for specific

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personal protective equipment.
 First Aid responders should pay attention to self-protection and use the recommended protective clothing
 First Aid responders should pay attention to self-protection and use the recommended protective clothing
 If potential for exposure exists refer to Section 8 for specific personal protective equipment.
 Avoid inhalation, ingestion and contact with skin and eyes.
 No action shall be taken involving any personal risk or without suitable training.
 It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Notes to physician : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.
 Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Foam
 Carbon dioxide (CO₂)
 Dry powder

Water spray
 Alcohol-resistant foam
 Carbon dioxide (CO₂)
 Dry chemical

Unsuitable extinguishing media : Water may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.

Exercise caution when using a high volume water jet as it may scatter and spread fire

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
 The pressure in sealed containers can increase under the influence of heat.
 Exposure to decomposition products may be a hazard to health.

Do not allow run-off from fire fighting to enter drains or water

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courses.

Hazardous combustion products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.

No hazardous combustion products are known

Specific extinguishing methods : Cool containers/tanks with water spray.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Standard procedure for chemical fires.
Due to reaction with water producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Prevent fire extinguishing water from contaminating surface water or the ground water system.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Immediately evacuate personnel to safe areas.
Use personal protective equipment.
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.
Ensure adequate ventilation.
Keep people away from and upwind of spill/leak.
Use personal protective equipment.
Ensure adequate ventilation.
Refer to protective measures listed in sections 7 and 8.
Only qualified personnel equipped with suitable protective equipment may intervene.
For additional precautions and advice on safe handling, see section 7.
Never return spills in original containers for re-use.
Make sure that there is a sufficient amount of neutralizing/

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absorbent material near the storage area.
 The danger areas must be delimited and identified using relevant warning and safety signs.
 Treat recovered material as described in the section "Disposal considerations".
 For disposal considerations see section 13.

Environmental precautions : Do not allow uncontrolled discharge of product into the environment.
 Do not allow material to contaminate ground water system.
 Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 Local authorities should be advised if significant spillages cannot be contained.
 If the product contaminates rivers and lakes or drains inform respective authorities.

Prevent product from entering drains.
 Prevent further leakage or spillage if safe to do so.
 If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Clean-up methods - small spillage
 Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
 Clean contaminated surface thoroughly.
 Sweep up or vacuum up spillage and collect in suitable container for disposal.
 Neutralize small spillages with decontaminant.
 The compositions of liquid decontaminants are given in Section 16.
 Remove and dispose of residues.
 Clean-up methods - large spillage
 If the product is in its solid form:
 Spilled MDI flakes should be picked up carefully.
 The area should be vacuum cleaned to remove remaining dust particles completely.
 If the product is in its liquid form:
 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
 Leave to react for at least 30 minutes.
 Shovel into open-top drums for further decontamination.
 Wash the spillage area with water.
 Test atmosphere for MDI vapour.
 Keep in suitable, closed containers for disposal.

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
 Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

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- Technical measures : Ensure that eyewash stations and safety showers are close to the workstation location.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Normal measures for preventive fire protection.
- Advice on safe handling : For personal protection see section 8.
 Avoid formation of aerosol.
 Do not breathe vapours or spray mist.
 Do not breathe vapours/dust.
 Do not swallow.
 Do not get in eyes or mouth or on skin.
 Do not get on skin or clothing.
 Avoid exposure - obtain special instructions before use.
 Smoking, eating and drinking should be prohibited in the application area.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Keep container closed when not in use.
 Open drum carefully as content may be under pressure.
 Dispose of rinse water in accordance with local and national regulations.
 Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
 Industrial use of aprotic polar solvents for cleaning can release hazardous primary aromatic amines (>0.1%)
- Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
 Avoid formation of aerosol.
 Do not breathe vapours/dust.
 Avoid exposure - obtain special instructions before use.
 Avoid contact with skin and eyes.
 For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Dispose of rinse water in accordance with local and national regulations.
 Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.
 Keep in properly labelled containers.
 Observe label precautions.

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Protect from moisture.
Electrical installations / working materials must comply with the technological safety standards.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Keep in properly labelled containers.

Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.

For incompatible materials please refer to Section 10 of this SDS.

Recommended storage temperature : 36 - 104 °F / 2 - 40 °C

Further information on storage stability : Stable under recommended storage conditions.

Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

Engineering measures : effective ventilation in all processing areas

Personal protective equipment

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
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.
In emergency, non-routine and unknown exposure situations, including confined space entries, a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied air respirator (SAR) with auxiliary self-contained air supply, should be used.

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air

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supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Protective gloves should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials which may be hazardous in contact with skin.

Use chemical resistant gloves classified under Standard EN374: protective gloves against chemicals and microorganisms. Examples of glove materials that might provide suitable protection include: Butyl rubber, Chlorinated polyethylene, Polyethylene, Ethyl vinyl alcohol copolymers laminated ("EVAL"), Polychloroprene (Neoprene*), Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Fluoroelastomer (Viton*).

When prolonged or frequently repeated contact may occur, a glove with protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN374) is recommended.

When only brief contact is expected, a glove with protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN374) is recommended. Notice: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to : other chemicals that may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as instructions/specifications provided by the glove supplier

By industrial use of aprotic polar solvents for cleaning : Butyl rubber (0.7mm), Nitrile rubber (0.4mm), Chloroprene (0.5mm) 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.

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : 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. Chemical splash goggles. Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

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Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.
 Ensure that eyewash stations and safety showers are close to the workstation location.
 Eye wash bottle with pure water
 Tightly fitting safety goggles
 Wear face-shield and protective suit for abnormal processing problems.

- Skin and body protection : Impervious clothing
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
 Recommended:
 Overall (preferably heavy cotton) or Tyvek-Pro Tech 'C' , Tyvek Pro 'F' disposable coverall.
 Impervious clothing
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Protective measures : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing
 The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
 Ensure that eye flushing systems and safety showers are located close to the working place.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
 Wash face, hands and any exposed skin thoroughly after handling.
 Remove contaminated clothing and protective equipment before entering eating areas.
 When using do not eat, drink or smoke.
 Contaminated work clothing should not be allowed out of the workplace.
 Wash hands before breaks and immediately after handling the product.
 Wash hands before breaks and at the end of workday.
 When using do not eat or drink.
 When using do not smoke.
 Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Colour : milky
 white
- Odour : slight
- Odour Threshold : No data is available on the product itself.

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pH	:	substance/mixture reacts with water
Melting point/freezing point	:	No data is available on the product itself.
Boiling point	:	No data is available on the product itself.
Flash point	:	> 201 °F / > 94 °C Method: estimated, closed cup
Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1.14
Density	:	No data is available on the product itself.
Solubility(ies)	:	
Water solubility	:	Water reactive
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	No data is available on the product itself.
Auto-ignition temperature	:	No data is available on the product itself.
Thermal decomposition	:	No data is available on the product itself.
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity	:	No data is available on the product itself.
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	No data is available on the product itself.
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

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- Reactivity : No dangerous reaction known under conditions of normal use.
No dangerous reaction known under conditions of normal use.
- Chemical stability : Stable under normal conditions.
Stable under normal conditions.
- Possibility of hazardous reactions : Reaction with water (moisture) produces CO₂-gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.
No hazards to be specially mentioned.
- Conditions to avoid : Extremes of temperature and direct sunlight. Exposure to air or moisture over prolonged periods.
None known.
- Incompatible materials : Acids
Amines
Bases
Metals
water
None known.
- Hazardous decomposition products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN. In the event of extreme heat (>500 degrees C), aniline is suspected of being formed.
No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity**Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Acute oral : LD50 (Rat, male): > 10,000 mg/kg
toxicityComponents Method: OECD Test Guideline 401

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Remarks: Information given is based on data obtained from similar substances.

Acute inhalation toxicity - Product : Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.
Remarks: Methods used to generate the exposure concentrations in the animal studies use extreme laboratory conditions and does not represent actual exposure conditions of the material in the workplace, storage, transportation or expected use on the market due to the very low vapor pressure. Therefore, these test results cannot be used to for hazard classification of the material. Rather, an acute toxicity estimate is calculated based on weight of evidence and expert judgement and is used to justify a modified classification for acute inhalation toxicity.

Acute toxicity estimate: 1.58 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Product:**

Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation**Product:**

Remarks: Causes sensitisation.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Assessment: May cause sensitisation by inhalation and skin contact.

Germ cell mutagenicity**Components:**

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Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Genotoxicity in vitro : Concentration: 200 ug/plate
Metabolic activation: with and without metabolic activation
Method: Directive 67/548/EEC, Annex, B.13/14
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Genotoxicity in vivo : Application Route: Inhalation
Exposure time: 3 Weeks
Dose: 118 mg/m³
Method: OECD Test Guideline 474
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Germ cell mutagenicity-
Assessment : No data available

Carcinogenicity**Product:**

Remarks: Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in a chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m³), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m³ and no effects at 0.2 mg/m³. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Remarks: Industrial use of aprotic polar solvents for cleaning can release hazardous primary aromatic amines (>0.1%)

Based on animal studies, primary aromatic amines are considered as potential carcinogen to humans. Some of those chemicals are proven carcinogens to humans

Provided the recommended personal protective equipment and hygiene measures are applied, no adverse effects to human health are to be expected

Carcinogenicity -
Assessment : No data available

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

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OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Effects on fertility : No data available

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Effects on foetal development : Species: Rat, female
Application Route: Inhalation
General Toxicity Maternal: No observed adverse effect level: 4 mg/m³
Method: OECD Test Guideline 414
Result: No teratogenic effects
Remarks: Information given is based on data obtained from similar substances.

Reproductive toxicity - Assessment : No data available

STOT - single exposure**Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Exposure routes: Inhalation
Target Organs: Respiratory Tract
Assessment: May cause respiratory irritation.
Remarks: Information given is based on data obtained from similar substances.

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Species: Rat, male and female
NOEC: 0.2 mg/m³
Exposure time: 2 yr
Number of exposures: 5 d
Method: OECD Test Guideline 453
Remarks: Information given is based on data obtained from similar substances.

Repeated dose toxicity - : No data available

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Assessment

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: Information given is based on data obtained from similar substances.

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l
Exposure time: 24 h
Test Type: static test

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Test substance: Fresh water
 Method: OECD Test Guideline 202
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : No data available

M-Factor (Acute aquatic toxicity) : No data available

Toxicity to fish (Chronic toxicity) : No data available

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): >= 10 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Test substance: Fresh water
 Method: OECD Test Guideline 211
 Remarks: Information given is based on data obtained from similar substances.

M-Factor (Chronic aquatic toxicity) : No data available

Toxicity to microorganisms : No data available

Toxicity to soil dwelling organisms : No data available

Plant toxicity : No data available

Sediment toxicity : No data available

Toxicity to terrestrial organisms : No data available

Ecotoxicology Assessment Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

Toxicity Data on Soil : No data available

Other organisms relevant to the environment : No data available

Persistence and degradability**Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

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Biodegradability : Inoculum: Domestic sewage
 Concentration: 30 mg/l
 Result: Not biodegradable
 Biodegradation: 0 %
 Exposure time: 28 d
 Method: Inherent Biodegradability: Modified MITI Test (II)

Biochemical Oxygen Demand (BOD) : No data available

Chemical Oxygen Demand (COD) : No data available

BOD/COD : No data available

ThOD : No data available

BOD/ThOD : No data available

Dissolved organic carbon (DOC) : No data available

Physico-chemical removability : No data available

Components:

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Stability in water : Degradation half life(DT50): 20 hrs (77 °F / 25 °C)
 Method: No information available.
 Remarks: Fresh water

Photodegradation : No data available

Impact on Sewage Treatment : No data available

Bioaccumulative potential**Components:**

Oxirane, methyl-, polymer with oxirane, ether with 1,2,3-propanetriol (3:1), polymer with 1,1'-methylenebis[4-isocyanatobenzene]:

Bioaccumulation : Species: Cyprinus carpio (Carp)
 Bioconcentration factor (BCF): 200
 Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : No data available

Mobility in soil

Mobility : No data available

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Distribution among environmental compartments : No data available

Stability in soil : No data available

Other adverse effects

Environmental fate and pathways : No data available

Results of PBT and vPvB assessment : No data available

Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : No data available

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Dispose of contents and container in accordance with all local, regional, national and international regulations.
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

Empty remaining contents.
Dispose of as unused product.

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Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as dangerous goods

IATA-DGR

Not regulated as dangerous goods

IMDG-Code

Not regulated as dangerous goods

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

Not regulated as dangerous goods

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Respiratory or skin sensitisation
Skin corrosion or irritation
Serious eye damage or eye irritation
Specific target organ toxicity (single or repeated exposure)

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

DSL : All components of this product are on the Canadian DSL

AIC : On the inventory, or in compliance with the inventory

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- NZIoC : On the inventory, or in compliance with the inventory
- ENCS : On the inventory, or in compliance with the inventory
- KECI : On the inventory, or in compliance with the inventory
- PICCS : Not in compliance with the inventory
- IECSC : On the inventory, or in compliance with the inventory
- TCSI : On the inventory, or in compliance with the inventory
- TSCA : All substances listed as active on the TSCA inventory

Inventories

AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

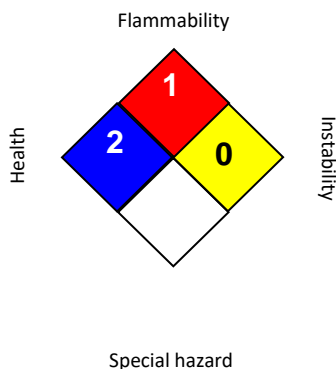
US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	*	2
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

Liquid decontaminants (percentages by weight or volume) :

Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %

Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %

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Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2.

Decontaminant 2 contains ammonia. Ammonia presents health hazards. (See supplier safety information.)

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The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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SECTION 1. IDENTIFICATION

Product name : ARALDITE® 2042 B US

Manufacturer or supplier's details

Company name of supplier : Huntsman Advanced Materials Americas LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : Non-Emergency: (800) 257-5547

E-mail address of person responsible for the SDS : Global_Product_EHS_AdMat@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Hardener

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Skin irritation : Category 2

Serious eye damage : Category 1

Short-term (acute) aquatic hazard : Category 1

Chronic aquatic toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.

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P280 Wear protective gloves/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

Storage:

Not available

Disposal:

P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
limestone	1317-65-3	20 - 30
1,1'-phenyliminodipropan-2-ol	3077-13-2	5 - 10
2-ethylhexane-1,3-diol	94-96-2	5 - 10
Terphenyl, hydrogenated	61788-32-7	1 - 5
cyclohex-1,2-ylenediamine	694-83-7	1 - 5
Silicon, amorphous	7631-86-9	1 - 5
phenylmercury acetate	62-38-4	0.1 - 1
terphenyl	26140-60-3	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

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- Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.
- If inhaled : Call a physician or poison control centre immediately.
If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : None known.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Avoid inhalation, ingestion and contact with skin and eyes.
No action shall be taken involving any personal risk or without suitable training.
It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Exercise caution when using a high volume water jet as it may scatter and spread fire

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- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.

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- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Keep in properly labelled containers.
- Materials to avoid : For incompatible materials please refer to Section 10 of this SDS.
- Further information on storage stability : Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
limestone	1317-65-3	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1
		TWA (Respirable)	5 mg/m ³ (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m ³ (Calcium carbonate)	NIOSH REL
		TWA (Total dust)	15 mg/m ³	OSHA P0
		TWA (respirable dust fraction)	5 mg/m ³	OSHA P0
Terphenyl, hydrogenated	61788-32-7	TWA	0.5 ppm	ACGIH
		TWA	0.5 ppm 5 mg/m ³	NIOSH REL
		TWA	0.5 ppm 5 mg/m ³	OSHA P0
Silicon, amorphous	7631-86-9	TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m ³ / %SiO ₂ (Silica)	OSHA Z-3
		TWA	6 mg/m ³ (Silica)	NIOSH REL
phenylmercury acetate	62-38-4	TWA	0.1 mg/m ³ (Mercury)	ACGIH
		TWA	0.05 mg/m ³	NIOSH REL

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		(Vapour)	(Mercury)	
		C	0.1 mg/m ³ (Mercury)	NIOSH REL
		C	0.1 mg/m ³ (Mercury)	OSHA P0
terphenyl	26140-60-3	C	1 ppm 9 mg/m ³	OSHA Z-1
		C	5 mg/m ³	ACGIH
		C	0.5 ppm 5 mg/m ³	OSHA P0

Personal protective equipment

Respiratory protection : **W A R N I N G !** This product contains quartz, which has been classified by IARC as carcinogenic for humans (Group 1), and which can cause silicosis and lung cancer following exposure to respirable dust. It is therefore important to take particular care to avoid inhalation exposure when mechanically processing cured material (e.g. grinding, sanding, sawing).

Hand protection

Remarks : 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.
 The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
 Tightly fitting safety goggles
 Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
 When using do not smoke.
 Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : red

Odour : mild

Odour Threshold : No data is available on the product itself.

pH : No data is available on the product itself.

Melting point/freezing point : No data is available on the product itself.

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Boiling point : No data is available on the product itself.

Flash point : 205 °F / 96 °C
Method: Pensky-Martens closed cup, closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Flammability (liquids) : No data is available on the product itself.

Upper explosion limit / Upper flammability limit : No data is available on the product itself.

Lower explosion limit / Lower flammability limit : No data is available on the product itself.

Vapour pressure : 4.9321 hPa (203 °F / 95 °C)

Relative vapour density : No data is available on the product itself.

Relative density : 1.3 - 1.4

Density : No data is available on the product itself.

Solubility(ies)
Water solubility : slightly soluble

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-octanol/water : No data is available on the product itself.

Auto-ignition temperature : No data is available on the product itself.

Decomposition temperature : No data is available on the product itself.

Self-Accelerating decomposition temperature (SADT) : No data is available on the product itself.

Viscosity : No data is available on the product itself.

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

Particle size : No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No dangerous reaction known under conditions of normal use.

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Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	None known.
Incompatible materials	:	None known.
Hazardous decomposition products	:	No decomposition if stored and applied as directed.
Hazardous decomposition products	:	carbon dioxide

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Product:**

Acute oral toxicity	:	Acute toxicity estimate: 4,305 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 81.95 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:**limestone:**

Acute oral toxicity	:	LD50 (Rat): 6,450 mg/kg
---------------------	---	-------------------------

1,1'-phenyliminodipropan-2-ol:

Acute oral toxicity	:	LD50 (Rat): 3,800 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

2-ethylhexane-1,3-diol:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
Acute inhalation toxicity	:	LC50 (Rat): > 3.8 mg/l Exposure time: 4 h Test atmosphere: vapour Assessment: The substance or mixture has no acute inhalation toxicity

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Acute dermal toxicity : LD50 (Rabbit, male and female): 8,960 - 10,521 mg/kg

Terphenyl, hydrogenated:

Acute oral toxicity : LD50 (Rat, male and female): > 10,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: no
Assessment: The substance or mixture has no acute dermal toxicity

cyclohex-1,2-ylenediamine:

Acute oral toxicity : LD50 (Rat, male): 1,690 mg/kg
Method: OECD Test Guideline 401
GLP: no
Assessment: The component/mixture is moderately toxic after single ingestion.
Remarks: Information given is based on data obtained from similar substances.

LD50 (Rat, male and female): 1,170 mg/kg
Method: OECD Test Guideline 401
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat, male and female): 4.9 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Information given is based on data obtained from similar substances.

Acute dermal toxicity : LD50 (Rat, male and female): 1,870 mg/kg
Method: OECD Test Guideline 402
GLP: no
Assessment: The component/mixture is moderately toxic after single contact with skin.

Silicon, amorphous:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

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Acute inhalation toxicity : LC50 (Rat, male and female): > 58.8 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

phenylmercury acetate:

Acute oral toxicity : LD50 Oral (Rat): 41 mg/kg
 Assessment: The component/mixture is highly toxic after single ingestion.

terphenyl:

Acute oral toxicity : LD50 (Rat, male and female): 2,604 mg/kg
 Method: OECD Test Guideline 401
 GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.8 mg/l
 Exposure time: 4 h
 Test atmosphere: dust/mist
 Method: OECD Test Guideline 403
 GLP: yes

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
 Method: OECD Test Guideline 402
 GLP: yes

Skin corrosion/irritation**Components:****1,1'-phenyliminodipropan-2-ol:**

Result : Mild skin irritation

2-ethylhexane-1,3-diol:

Species : Rabbit
 Assessment : No skin irritation
 Result : Normally reversible injuries

Terphenyl, hydrogenated:

Species : Rabbit
 Exposure time : 24 h
 Method : Other guidelines
 Result : No skin irritation

cyclohex-1,2-ylenediamine:

Species : Rabbit
 Assessment : Causes severe burns.
 Method : OECD Test Guideline 404
 Result : Corrosive after 3 minutes or less of exposure
 GLP : no
 Remarks : Information given is based on data obtained from similar substances.

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Silicon, amorphous:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation

phenylmercury acetate:

Species : Human
Result : Causes burns.

terphenyl:

Species : Rabbit
Assessment : No skin irritation
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Serious eye damage/eye irritation**Components:****limestone:**

Species : Rabbit
Result : Mechanical irritation of the eyes is possible.
Assessment : No eye irritation

1,1'-phenyliminodipropan-2-ol:

Result : Risk of serious damage to eyes.

2-ethylhexane-1,3-diol:

Species : Rabbit
Result : Risk of serious damage to eyes.

Terphenyl, hydrogenated:

Species : Rabbit
Result : No eye irritation
Method : Draize Test
GLP : no

cyclohex-1,2-ylenediamine:

Species : Rabbit
Result : Risk of serious damage to eyes.
Assessment : Risk of serious damage to eyes.
GLP : no
Remarks : Information given is based on data obtained from similar substances.

Silicon, amorphous:

Species : Rabbit

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Result : No eye irritation
 Assessment : No eye irritation
 Method : OECD Test Guideline 405

phenylmercury acetate:

Species : Rabbit
 Result : Corrosive

terphenyl:

Species : Rabbit
 Result : No eye irritation
 Assessment : No eye irritation
 Method : OECD Test Guideline 405
 GLP : yes

Respiratory or skin sensitisation**Components:****limestone:**

Exposure routes : Skin
 Species : Guinea pig
 Method : OECD Test Guideline 406
 Result : Does not cause skin sensitisation.

Terphenyl, hydrogenated:

Exposure routes : Skin
 Species : Humans
 Method : Patch Test 24 Hrs.
 Result : Does not cause skin sensitisation.

Assessment : Does not cause skin sensitisation.

Germ cell mutagenicity**Components:****Terphenyl, hydrogenated:**

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 482
 Result: negative

Test Type: Ames test

Metabolic activation: with and without metabolic activation
 Result: negative

Metabolic activation: with and without metabolic activation
 Method: In vitro mammalian cell gene mutation test
 Result: negative

Genotoxicity in vivo : Species: Rat
 Cell type: Bone marrow
 Dose: 250, 1250, 2500 mg/kg bw
 Method: OECD Test Guideline 475

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Result: negative

cyclohex-1,2-ylenediamine:

Genotoxicity in vitro : Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
Remarks: Information given is based on data obtained from similar substances.

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: inhalation (dust/mist/fume)
Exposure time: 13 Weeks
Dose: 0, 1.6, 5, 16, 50, 160 mg/m³
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Silicon, amorphous:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471

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Result: negative

Genotoxicity in vivo : Application Route: Inhalation
Dose: 50 mg/m³
Result: negative

terphenyl:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: Metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: yes

Test Type: gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: in vivo assay
Species: Rat (male and female)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Exposure time: 6-24 h
Dose: 0, 500, 2500, 5000 mg/kg bw
Method: OECD Test Guideline 475
Result: negative
GLP: yes

Carcinogenicity**Components:****Silicon, amorphous:**

Species : Rat, male and female
Application Route : Oral
Exposure time : 103 weeks
Dose : 1800 - 3200 mg/kg
Frequency of Treatment : 7 daily
Method : OECD Test Guideline 453
Result : negative

IARC Group 2B: Possibly carcinogenic to humans
phenylmercury acetate 62-38-4
(methylmercury compounds)

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OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity**Components:****2-ethylhexane-1,3-diol:**

Effects on foetal development : Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
Result: No teratogenic effects

Species: Rat, female
Application Route: Dermal
General Toxicity Maternal: NOAEL: 1,884 mg/kg body weight
Result: Teratogenic effects

Terphenyl, hydrogenated:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Frequency of Treatment: 7 days/week
General Toxicity - Parent: NOAEL: 1,000 ppm
General Toxicity F1: NOAEL: 1,000 ppm
Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.
GLP: yes

Effects on foetal development : Species: Rat, female
Application Route: Oral
Dose: 125, 500, 1500 mg/kg bw/d
Frequency of Treatment: 1 daily
General Toxicity Maternal: NOAEL: 125 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

cyclohex-1,2-ylenediamine:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 0, 50, 150, 500 mg/kg b.w.
General Toxicity - Parent: NOAEL: 500 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

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Effects on foetal development : Test Type: Pre-natal
 Species: Rat, females
 Application Route: Oral
 Dose: 0, 112, 184, 300 mg/kg b.w
 Duration of Single Treatment: 10 d
 Frequency of Treatment: 7 days/week
 General Toxicity Maternal: NOAEL: ca. 184 mg/kg body weight
 Developmental Toxicity: NOAEL: ca. 300 mg/kg body weight
 Method: OECD Test Guideline 414
 Result: No teratogenic effects
 GLP: no
 Remarks: Information given is based on data obtained from similar substances.

Silicon, amorphous:

Effects on foetal development : Species: Mouse
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 1,340 mg/kg body weight
 Method: OECD Test Guideline 414
 Result: No teratogenic effects

Species: Rabbit
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 1,600 mg/kg body weight
 Method: OECD Test Guideline 414
 Result: No teratogenic effects

Species: Rat
 Application Route: Oral
 General Toxicity Maternal: NOAEL: 1,350 mg/kg body weight
 Method: OECD Test Guideline 414
 Result: No teratogenic effects

STOT - single exposure**Components:****cyclohex-1,2-ylenediamine:**

Exposure routes : Inhalation
 Target Organs : Respiratory Tract
 Assessment : May cause respiratory irritation.

STOT - repeated exposure**Components:****phenylmercury acetate:**

Assessment : Causes damage to organs through prolonged or repeated exposure.

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Repeated dose toxicity**Components:****2-ethylhexane-1,3-diol:**

Species : Rat, male and female
 LOAEL : 100 mg/kg
 Application Route : Ingestion
 Exposure time : 696 h
 Number of exposures : 5 d
 Method : Subacute toxicity

Species : Rat
 NOAEL : 480 mg/kg
 Application Route : Ingestion
 Exposure time : 2,160 h
 Method : Subchronic toxicity

Species : Rat, male and female
 NOAEL : 3768 mg/kg
 Application Route : Skin contact
 Exposure time : 13 Weeks
 Number of exposures : 5 d
 Method : Subchronic toxicity

Terphenyl, hydrogenated:

Species : Rat, male and female
 NOAEL : 12 mg/kg
 LOAEL : 120 mg/kg
 Application Route : oral (feed)
 Exposure time : 14 weeks
 Number of exposures : 7 days/week
 Method : OECD Test Guideline 408

Species : Rat, male and female
 NOAEL : 0.1 mg/l
 LOAEL : 0.5 mg/l
 Application Route : Inhalation
 Exposure time : 90 days
 Number of exposures : 6 hours/day, 5 days/week (67 n)
 Dose : 0, 10, 100, 500 mg/m³
 Method : OECD Test Guideline 413

Species : Rabbit, male and female
 NOAEL : 2,000 mg/kg
 Application Route : Dermal
 Exposure time : 21 days
 Number of exposures : 6 hours/day, 5 days/week
 Dose : 125, 500, 2000 mg/kg bw/d
 Method : Subacute toxicity
 Target Organs : Skin

Repeated dose toxicity - Assessment : No adverse effect has been observed in chronic toxicity tests.

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cyclohex-1,2-ylenediamine:

Species : Rat, male and female
 NOAEL : 581.3 - 617 mg/kg
 Application Route : Oral
 Exposure time : 28 d
 Number of exposures : daily
 Dose : 0, 300, 3000, 10000 ppm
 Method : OECD Test Guideline 407
 GLP : yes
 Remarks : Information given is based on data obtained from similar substances.

Species : Rat, male and female
 NOAEL : 150 mg/kg
 Application Route : Oral
 Number of exposures : daily
 Dose : 0, 50, 150, and 500 mg/kg bw/d
 Method : OECD Test Guideline 422
 GLP : yes

Species : Rat, male and female
 : 16 mg/m³
 Application Route : inhalation (dust/mist/fume)
 Exposure time : 13 weeks 6 h
 Number of exposures : daily
 Dose : 0, 1.0, 3.1, 10, 31, 100 mg/m³
 Method : OECD Test Guideline 413
 GLP : yes
 Remarks : Information given is based on data obtained from similar substances.

Silicon, amorphous:

Species : Rat, male and female
 NOAEL : 7950 - 8980 mg/kg
 Application Route : Ingestion
 Exposure time : 4,320 h
 Number of exposures : 7 d
 Method : Subchronic toxicity

Species : Rat, male and female
 NOEC : 4000 - 4500 mg/m³
 Application Route : Ingestion
 Test atmosphere : dust/mist
 Exposure time : 13 Weeks
 Number of exposures : 7 d
 Method : OECD Test Guideline 413

Aspiration toxicity

No data available

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

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Neurological effects

No data available

Further information

No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****limestone:**

Toxicity to fish : LC50: > 56,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC50 (Daphnia magna (Water flea)): > 350 mg/l
Exposure time: 125 d
Test Type: semi-static test
Test substance: Fresh water

2-ethylhexane-1,3-diol:

Toxicity to fish : LC50 (Ictalurus punctatus (channel catfish)): 624 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Terphenyl, hydrogenated:

Toxicity to fish : LC50: > 100 mg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 56 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): < 1 mg/l
Exposure time: 21 d
Test Type: semi-static test

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Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : NOEC (activated sludge): 103 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

cyclohex-1,2-ylenediamine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 1,825 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 19.8 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: no
Remarks: Information given is based on data obtained from similar substances.

EC50 (Daphnia magna (Water flea)): 50 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
GLP: no
Remarks: Information given is based on data obtained from similar substances.

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Test substance: Fresh water
Method: OECD Test Guideline 201
GLP: yes
Remarks: Information given is based on data obtained from similar substances.

EC10 (Pseudokirchneriella subcapitata (green algae)): 118

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mg/l

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Test substance: Fresh water

Method: OECD Test Guideline 201

GLP: yes

Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 4.16 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Analytical monitoring: yes
 Test substance: Fresh water
 Method: OECD Test Guideline 211
 GLP: yes
 Remarks: Information given is based on data obtained from similar substances.

Toxicity to microorganisms : EC10 (Pseudomonas putida): 12,500 mg/l
 Exposure time: 20 h
 Test Type: static test
 Analytical monitoring: no
 Test substance: Fresh water
 GLP: no
 Remarks: Information given is based on data obtained from similar substances.

Silicon, amorphous:

Toxicity to fish : LL50 (Brachydanio rerio (zebrafish)): > 10,000 mg/l
 Exposure time: 96 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 202

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): >= 1,000 mg/l
 Exposure time: 24 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Desmodesmus subspicatus (green algae)): > 10,000 mg/l
 Exposure time: 72 h
 Test Type: static test
 Test substance: Fresh water
 Method: OECD Test Guideline 201

phenylmercury acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.009 mg/l
 Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50: 0.006 mg/l
 Exposure time: 24 h

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M-Factor (Acute aquatic toxicity) : 100

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0019 - 0.0032 mg/l
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 10

terphenyl:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 27 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
GLP: yes

NOEC (Oncorhynchus mykiss (rainbow trout)): 10 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.022 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : (Pimephales promelas (fathead minnow)): 0.049 mg/l
End point: mortality
Exposure time: 34 d
Test Type: flow-through test
Test substance: Fresh water
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): 0.005 mg/L
Exposure time: 21 d
Test Type: flow-through test
Analytical monitoring: yes
Test substance: Fresh water
GLP: yes

M-Factor (Chronic aquatic toxicity) : 10

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Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Persistence and degradability**Components:****2-ethylhexane-1,3-diol:**

Biodegradability : aerobic
Inoculum: Mixture
Concentration: 31.2 mg/l
Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301E
GLP: yes

cyclohex-1,2-ylenediamine:

Biodegradability : aerobic
Inoculum: Sewage (STP effluent)
Concentration: 1.1 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Test substance: Fresh water
GLP: yes
Remarks: Information given is based on data on the components and the ecotoxicology of similar products.

aerobic
Inoculum: activated sludge, adapted
Concentration: 6.7 mg/l
Result: Readily biodegradable.
Biodegradation: 82 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Test substance: Fresh water
GLP: yes
Remarks: Information given is based on data on the components and the ecotoxicology of similar products.

aerobic
Inoculum: Sewage (STP effluent)
Concentration: 1.13 mg/l
Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
Test substance: Fresh water
GLP: yes

Stability in water : Method: No information available.

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GLP: No information available.
Remarks: see user defined free text

Photodegradation : Rate constant: < .001
GLP: no

terphenyl:

Biodegradability : Result: Not biodegradable

Bioaccumulative potential**Components:****limestone:**

Partition coefficient: n-octanol/water : log Pow: < 1

Terphenyl, hydrogenated:

Partition coefficient: n-octanol/water : log Pow: 6.5

cyclohex-1,2-ylenediamine:

Partition coefficient: n-octanol/water : log Pow: < -0.9 (68 °F / 20 °C)
pH: 7
Method: OECD Test Guideline 107
GLP: yes

phenylmercury acetate:

Bioaccumulation : Bioconcentration factor (BCF): 100

Mobility in soil

No data available

Other adverse effects**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82
Protection of Stratospheric Ozone - CAA Section 602 Class I
Substances
Remarks: This product neither contains, nor was
manufactured with a Class I or Class II ODS as defined by the
U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A +
B).

Additional ecological information : An environmental hazard cannot be excluded in the event of
unprofessional handling or disposal.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.
Toxic to aquatic life with long lasting effects.

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SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

- Waste from residues : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
- Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

- UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(phenyl mercuric acetate, Terphenyl)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

- UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(phenyl mercuric acetate, Terphenyl)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

- UN/ID/NA number : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(phenyl mercuric acetate, Terphenyl)
Class : 9
Packing group : III
Labels : CLASS 9
ERG Code : 171
Marine pollutant : yes
Remarks : Shipment by ground under DOT is non-regulated; however it

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may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks : 49CFR: no dangerous good in non-bulk packaging

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
phenylmercury acetate	62-38-4	100	11111

SARA 311/312 Hazards : Skin corrosion or irritation
 Serious eye damage or eye irritation

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

WARNING: This product can expose you to chemicals including phenylmercury acetate, 4-vinylcyclohexene, buta-1,3-diene, which is/are known to the State of California to cause cancer, and phenylmercury acetate, 4-vinylcyclohexene, toluene, buta-1,3-diene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

DSL : This product contains one or several components listed in the Canadian NDSL.

AIIC : Not in compliance with the inventory

NZIoC : Not in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : Not in compliance with the inventory

PICCS : Not in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

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TCSI : Not in compliance with the inventory

TSCA : All substances listed as active on the TSCA inventory

Inventories

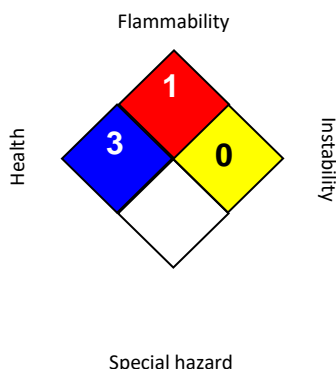
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

TSCA - 5(a) Significant New Use Rule List of Chemicals

No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION**Further information****NFPA 704:****HMIS® IV:**

HEALTH		3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

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ACGIH : USA. ACGIH Threshold Limit Values (TLV)

NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

OSHA Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts

ACGIH / TWA : 8-hour, time-weighted average

ACGIH / C : Ceiling limit

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

NIOSH REL / C : Ceiling value not be exceeded at any time.

OSHA P0 / TWA : 8-hour time weighted average

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OSHA P0 / C	:	Ceiling limit
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-1 / C	:	Ceiling
OSHA Z-3 / TWA	:	8-hour time weighted average

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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