

ARADUR® HY 925-1 US

Version 2.1 Revision Date: 07/10/2023 SDS Number: 400001014840 Date of last issue: 08/10/2021
Date of first issue: 05/21/2021

Print Date 11/20/2025

SECTION 1. IDENTIFICATION

Product name : ARADUR® HY 925-1 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 : 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 used for the manufacture of electrical insulation parts

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

Serious eye damage : Category 1

Respiratory sensitisation : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 2

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elementsHazard pictograms : 

Signal word : Danger

Hazard statements : H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H334 May cause allergy or asthma symptoms or breathing

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difficulties if inhaled.
 H361 Suspected of damaging fertility or the unborn child.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

: **Prevention:**

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing mist or vapours.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P285 In case of inadequate ventilation wear respiratory protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

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.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
tetrahydromethylphthalic anhydride	11070-44-3	70 - 90
2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate	68071-05-6	10 - 20
trichloro(N,N-dimethyloctylamine)boron	34762-90-8	0.1 - 1

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.
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	:	No hazardous combustion products are known
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. 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.

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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.
 Observe label precautions.
 Keep in properly labelled containers.
- Materials to avoid : 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 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
tetrahydromethylphthalic anhydride	11070-44-3	TWA	0.00007 ppm	ACGIH
		STEL	0.0003 ppm	ACGIH
		SL	0.7 mg/100 cm ²	ACGIH

Personal protective equipment

- 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 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
- Material : butyl-rubber
- Break through time : > 8 h
- Material : Solvent-resistant gloves (butyl-rubber)
- Material : Nitrile rubber
- Break through time : 10 - 480 min
- Material : Neoprene gloves
- 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.

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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	:	amber, Clear
Odour	:	No data is available on the product itself.
Odour Threshold	:	No data is available on the product itself.
pH	:	substance/mixture is non-soluble (in 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	:	239 °F / 115 °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	:	No data is available on the product itself.
Relative vapour density	:	No data is available on the product itself.
Relative density	:	1.19 - 1.23
Density	:	1.19 - 1.23 g/cm ³ (77 °F / 25 °C) Method: ISO Method, other
Solubility(ies)		
Water solubility	:	insoluble (68 °F / 20 °C)
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.

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Decomposition temperature : > 392 °F / > 200 °C

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

Viscosity
Viscosity, dynamic : 300 - 400 mPa.s (77 °F / 25 °C)
Method: OECD Test Guideline 114

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.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No hazards to be specially mentioned.

Conditions to avoid : None known.

Incompatible materials : Strong acids
Strong bases
Strong oxidizing agents
None known.

Hazardous decomposition products : Carbon oxides
Burning produces noxious and toxic fumes.
No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity****Components:****tetrahydromethylphthalic anhydride:**

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

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

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Acute oral toxicity : LD50 (Rat, female): > 2,000 mg/kg
Method: OECD Test Guideline 425
Assessment: The substance or mixture has no acute oral

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toxicity

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

trichloro(N,N-dimethyloctylamine)boron:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
 Method: OECD Test Guideline 401
 GLP: no
 Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): 2,5 ml/kg bw
 Method: OECD Test Guideline 402
 GLP: no
 Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Components:****tetrahydromethylphthalic anhydride:**

Species : Rabbit
 Assessment : Mild skin irritant
 Method : OPPTS 870.2500
 Result : slight irritation

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Species : human skin
 Assessment : No skin irritation
 Method : OECD Test Guideline 439
 Result : No skin irritation

trichloro(N,N-dimethyloctylamine)boron:

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

Serious eye damage/eye irritation**Components:****tetrahydromethylphthalic anhydride:**

Species : Rabbit
 Result : Corrosive
 Method : OECD Test Guideline 405

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Species : Rabbit

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Result : Moderate eye irritation
Method : OECD Test Guideline 405

trichloro(N,N-dimethyloctylamine)boron:

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

Respiratory or skin sensitisation**Components:****tetrahydromethylphthalic anhydride:**

Exposure routes : Respiratory Tract
Species : Humans
Result : May cause sensitisation by inhalation.

Result : May cause sensitisation by skin contact.

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Exposure routes : Skin
Species : Mouse
Assessment : May cause sensitisation by skin contact.
Method : OECD Test Guideline 429
Result : Causes sensitisation.

Assessment : May cause sensitisation by skin contact.

trichloro(N,N-dimethyloctylamine)boron:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin
Species : Mouse
Method : OECD Test Guideline 429
Result : Probability or evidence of low to moderate skin sensitisation rate in humans
GLP : yes

Germ cell mutagenicity**Components:****2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:**

Genotoxicity in vitro : Test Type: Ames test
Concentration: 0 - 5000 µg per plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

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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: positive

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay
 Species: Rat (male)
 Cell type: Somatic
 Application Route: Oral
 Dose: 500, 1000 and 2000
 Method: In vivo mammalian alkaline comet assay
 Result: negative
 GLP: yes

trichloro(N,N-dimethyloctylamine)boron:

Genotoxicity in vitro : Test Type: reverse mutation assay
 Test system: Salmonella tryphimurium and E. coli
 Metabolic activation: with and without metabolic activation
 Method: OECD Test Guideline 471
 Result: negative
 GLP: yes

Test Type: In vitro mammalian cell 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

Carcinogenicity

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.

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:****2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:**

Effects on foetal development : Test Type: Embryo-foetal development
 Species: Rat, female

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Strain: Sprague-Dawley
 Application Route: Oral
 Dose: 100, 300 and 750 milligram per kilogram
 Embryo-foetal toxicity: NOAEL: 750 mg/kg body weight
 Method: OECD Test Guideline 414
 GLP: yes

trichloro(N,N-dimethyloctylamine)boron:

Effects on fertility : Test Type: Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test
 Species: Rat, male and female
 Strain: wistar
 Application Route: Oral
 Dose: 0/100/300/1000 milligram per kilogram
 Duration of Single Treatment: 49 d
 Frequency of Treatment: 7 days/week
 General Toxicity - Parent: NOAEL: 1,000 mg/kg body weight
 General Toxicity F1: NOEL: 300 mg/kg body weight
 Fertility: NOAEL: 300 mg/kg body weight
 Method: OECD Test Guideline 422
 Result: Embryotoxic effects and adverse effects on the offspring were detected.
 GLP: yes

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments., Suspected of damaging fertility or the unborn child.

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:****2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:**

Species : Rat, male and female
 NOAEL : 1000 mg/kg
 Application Route : oral (gavage)
 Exposure time : 28 days
 Number of exposures : 7 d
 Dose : 150, 500 and 1000 mg/kg
 Method : OECD Test Guideline 407

Species : Rat, male and female
 NOAEL : 100 mg/kg
 Application Route : oral (gavage)
 Exposure time : 90 days
 Number of exposures : Daily
 Dose : 10, 100 and 750 mg/kg
 Method : OECD Test Guideline 408
 GLP : yes

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

trichloro(N,N-dimethyloctylamine)boron:

Species	: Rat, male and female
NOEL	: 300 mg/kg
NOAEL	: 1,000 mg/kg
Application Route	: Oral
Exposure time	: 49 d
Number of exposures	: 7 d/week
Dose	: 0/100/300/1000 mg/kg
Method	: OECD Test Guideline 422
GLP	: yes

Aspiration toxicity

No data available

Experience with human exposure

No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

No data available

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

Toxicity to fish	: LC50 (Oryzias latipes (Orange-red killifish)): > 100 mg/l Exposure time: 96 h Test Type: flow-through test Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 130 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: EgC50 (Selenastrum capricornutum (green algae)): 68 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 201
Toxicity to fish (Chronic toxicity)	: NOEC (Oryzias latipes (Orange-red killifish)): 100 mg/l Exposure time: 14 d

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Test Type: flow-through test
Test substance: Fresh water
Method: OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 20 mg/l
Exposure time: 21 d
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 211

Toxicity to microorganisms : IC20: 9.33 mg/l
Exposure time: 3 h
Test Type: flow-through test
Test substance: Fresh water
Method: OECD Test Guideline 209

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100,000 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 33.2 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 25 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

trichloro(N,N-dimethyloctylamine)boron:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 100 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: no

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Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.75 mg/l
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
 GLP: yes

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.13 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.022 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes

M-Factor (Acute aquatic toxicity) : 1
 M-Factor (Chronic aquatic toxicity) : 1
 Toxicity to microorganisms : NOEC (activated sludge): 57 mg/l
 Exposure time: 28 d
 Test Type: Fresh water
 Method: OECD Test Guideline 301B

Persistence and degradability**Components:****tetrahydromethylphthalic anhydride:**

Biodegradability : Inoculum: activated sludge
 Concentration: 100 mg/l
 Result: Not readily biodegradable.
 Biodegradation: 0 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301C

Stability in water : Degradation half life (DT50): 3.3 min (20 °C) pH: 4
 Method: OECD Test Guideline 111
 Remarks: Fresh water

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Biodegradability : Inoculum: activated sludge
 Concentration: 5 mg/l
 Result: Not biodegradable
 Biodegradation: ca. 2.5 %
 Exposure time: 21 d
 Method: OECD Test Guideline 301D

Stability in water : Degradation half life (DT50): > 1 yr (25 °C) pH: 4
 Method: OECD Test Guideline 111

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Remarks: Fresh water

Degradation half life (DT50): > 1 yr (25 °C) pH: 7
 Method: OECD Test Guideline 111
 Remarks: Fresh water

Degradation half life (DT50): > 1 yr (25 °C) pH: 9
 Method: OECD Test Guideline 111
 Remarks: Fresh water

trichloro(N,N-dimethyloctylamine)boron:

Biodegradability : aerobic
 Inoculum: activated sludge
 Concentration: 57 mg/l
 Result: Not biodegradable
 Biodegradation: 10 - 25 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B
 GLP: no

aerobic
 Inoculum: Mixture
 Concentration: 30 mg/l
 Result: Inherently biodegradable.
 Biodegradation: 42 %
 Exposure time: 28 d
 Method: Inherent Biodegradability: Modified MITI Test (II)
 GLP: yes

Stability in water : Degradation half life (DT50): 10.4 h (25 °C) pH: 4
 Method: OECD Test Guideline 111

Degradation half life (DT50): 10.3 h (25 °C) pH: 7
 Method: OECD Test Guideline 111

Degradation half life (DT50): 10.4 h (25 °C) pH: 9
 Method: OECD Test Guideline 111

Bioaccumulative potential**Components:****tetrahydromethylphthalic anhydride:**

Bioaccumulation : Bioconcentration factor (BCF): 3.16

Partition coefficient: n-octanol/water : log Pow: 2.38 - 2.51 (77 °F / 25 °C)
 pH: 6
 Method: QSAR

2,2-dimethylpropane-1,3-diyl cyclohex-4-ene-1,2-dicarboxylate:

Partition coefficient: n-octanol/water : log Pow: 1.14 (95 °F / 35 °C)
 pH: 7
 Method: OECD Test Guideline 117

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trichloro(N,N-dimethyloctylamine)boron:

Bioaccumulation : Bioconcentration factor (BCF): 1
GLP: no
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Bioconcentration factor (BCF): 3.03

GLP: no

Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Partition coefficient: n-octanol/water : log Pow: 5.77 (77 °F / 25 °C)
Method: OECD Test Guideline 107
GLP: yes

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.
Harmful to aquatic life with long lasting effects.

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****UNRTDG**

Not regulated as dangerous goods

IATA-DGR

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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**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

SARA 311/312 Hazards : Respiratory or skin sensitisation
 Reproductive toxicity
 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) $\geq 0.1\%$, 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 1,4-dioxane, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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

DSL	: All components of this product are on the Canadian DSL
AIIC	: On the inventory, or in compliance with the inventory
ENCS	: Not 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

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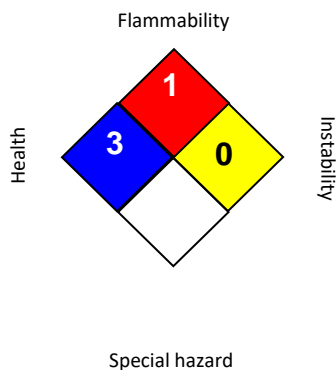
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

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)
 ACGIH / TWA : 8-hour, time-weighted average
 ACGIH / STEL : Short-term exposure limit
 ACGIH / SL : Threshold Limit Value-Surface Limit (TLV-SL)

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.

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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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