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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM CORBOND® IV Canada B Summer LO ALT BLUE, JM

CORBOND® IV Canada B Winter LO ALT BLUE

Manufacturer or supplier's details

Company : Johns Manville Canada Inc.

Address : 5301 42 Avenue

Innisfail, AB Canada T4G 1A2

Telephone : +1-303-978-2000

Emergency telephone : 24-Hour Number: +1-800-424-9300 (CHEMTREC)

number

Recommended use of the chemical and restrictions on use

Recommended use : thermal and/or acoustic insulation
Restrictions on use : For professional users only.
Prepared by : productsafety@jm.com

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200 and the Hazardous Products Regulations

Reproductive toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H361 Suspected of damaging fertility or the unborn child.

Precautionary statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P280 Wear protective gloves/ protective clothing/ eye protection/

face protection.

Response:

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

attention.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container to an approved facility in



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accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
trans-1-chloro-3,3,3-trifluoroprop-1-ene	102687-65-0	>= 7 - < 13
tris(2-chloro-1-methylethyl) phosphate	13674-84-5	>= 5 - < 10
diethylene glycol	111-46-6	>= 5 - < 10
poly(oxy-1,2-ethanediyl), .alpha(4-	127087-87-0	>= 1 - < 5
nonylphenyl)omegahydroxy-, branched		
phosphoric acid, triethyl ester	78-40-0	>= 1 - < 5
zinc compound catalyst (trade secret) *	trade secret *	>= 0.1 - < 1
tertiary amine catalyst (trade secret) *	trade secret *	>= 0.1 - < 1

Actual concentration or concentration range is withheld as a trade secret, * HMIRA RN: 03413035 – Filing Date June 3, 2021

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled : Remove to fresh air immediately. Get medical attention

immediately.

If breathing is irregular or stopped, administer artificial

respiration.

If unconscious, place in recovery position and seek medical

advice.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention immediately.

Wash contaminated clothing before reuse.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids,

for at least 5 minutes.

If easy to do, remove contact lens, if worn.

Keep eye wide open while rinsing.

Protect unharmed eye.

If eye irritation persists, consult a specialist.

If swallowed : DO NOT induce vomiting unless directed to do so by a

physician or poison control center.

Gently wipe or rinse the inside of the mouth with water. Never give anything by mouth to an unconscious person.

Get medical attention immediately.

Most important symptoms : Suspected of damaging fertility or the unborn child.



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and effects, both acute and

delayed

Protection of first-aiders If potential for exposure exists refer to Section 8 for specific

personal protective equipment.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media Water spray

Dry chemical

Carbon dioxide (CO2)

Foam

Unsuitable extinguishing

media

High volume water jet

Specific hazards during

firefighting

Cool closed containers exposed to fire with water spray.

Hazardous combustion

carbon oxides

products

fluorine compounds olefins

Hydrogen fluoride chlorine compounds

phosphorus oxides Hydrogen chloride gas

nitrogen oxides

phenol

Specific extinguishing

Further information

methods

Standard procedure for chemical fires.

Special protective equipment

for firefighters

Use a water spray to cool fully closed containers.

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. Keep people away from and upwind of spill/leak.

Ensure adequate ventilation.

Use personal protective equipment.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

The product should not be allowed to enter drains, water

courses or the soil.

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

fire and explosion

Advice on protection against : Fire or intense heat may cause violent rupture of packages.

Advice on safe handling Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

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Smoking, eating and drinking should be prohibited in the

application area.

For personal protection see section 8.

Conditions for safe storage : Store in tightly closed containers to prevent moisture

contamination. Do not reseal if contamination is suspected.

Materials to avoid : polymerisation initiators

Recommended storage

temperature

Further information on storage stability

: 50 - 75 °F / 10 - 24 °C

Keep containers dry and tightly closed to avoid moisture

absorption and contamination.

Protect from heat, freezing and ultraviolet light.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
trans-1-chloro-3,3,3- trifluoroprop-1-ene	102687-65-0	TWA	800 ppm	US WEEL
diethylene glycol	111-46-6	TWA	10 mg/m3	US WEEL
phosphoric acid, triethyl ester	78-40-0	TWA	7.45 mg/m3	US WEEL

Johns Manville is a member of the Center for the Polyurethanes Industry (CPI) of the American Chemistry Council. For more information about safe work practices, see CPI's *Health and Safety Product Stewardship Workbook for High-Pressure Application of Spray Polyurethane Foam (SPF)* and other resources (some available in Spanish and French) at the following website hyperlinks: https://www.spraypolyurethane.org/resources/ and https://www.spraypolyurethane.org/additional-resources/.

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.

Hand protection

Material : Impervious gloves

Remarks : Please observe the instructions regarding permeability and

breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the

danger of cuts, abrasion, and the contact time.

Eye protection : Wear safety glasses with side shields or goggles.

Wear a faceshield or other full face protection if there is a



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potential for direct contact to the face with dusts, mists, or

aerosols.

Remove respiratory and skin/eye protection only after

vapours have been cleared from the area.

Skin and body protection : Wear protective clothing, such as long-sleeved shirts and

pants.

Full protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place. Remove and wash contaminated clothing before re-use.

Hygiene measures : Handle in accordance with good industrial hygiene and safety

practice.

When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

Written instructions for handling must be available at the work

place.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid

Colour : blue Odour : amine-like

Odour Threshold : No data available

pH : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling : No data available

range

Flash point : > 93 °C

Evaporation rate : No data available Flammability (solid, gas) : Not applicable

Not applicable

Upper explosion limit : No data available Lower explosion limit : No data available Vapour pressure : No data available Relative vapour density : No data available Relative density : No data available Water solubility : No data available Solubility in other solvents : No data available Partition coefficient: n-: No data available

octanol/water

Auto-ignition temperature : No data available
Thermal decomposition : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available

SECTION 10. STABILITY AND REACTIVITY

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

Chemical stability : Stable under normal conditions.

Possibility of hazardous : Contact with isocyanates will cause polymerization.



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reactions Stable under recommended storage conditions.

Conditions to avoid : Protect from frost, heat and sunlight.

Exposure to moisture

Incompatible materials : Strong oxidizing agents

isocyanates

Hazardous decomposition

products

In case of fire hazardous decomposition products may be

produced such as: carbon oxides chlorine compounds

fluorine compounds nitrogen oxides

Phosphorus compounds Hydrogen fluoride Hydrogen chloride gas

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : Acute toxicity estimate : 3,816 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 200 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:

trans-1-chloro-3,3,3-trifluoroprop-1-ene:

Acute inhalation toxicity : LC50 (Rat, male and female): 120000 ppm

Exposure time: 4 h Test atmosphere: gas

Method: OECD Test Guideline 403

tris(2-chloro-1-methylethyl) phosphate:

Acute oral toxicity : LD50 (Rat, female): ca. 707 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute

inhalation toxicity

Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg

Method: OECD Test Guideline 402

diethylene glycol:



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Acute oral toxicity : LD50 (Humans): > 300 - 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 4.6 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Assessment: The substance or mixture has no acute

inhalation toxicity

Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit): 13,300 mg/kg

poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:

Acute oral toxicity : LD50 (Rabbit, male and female): 657.2 mg/kg

Acute inhalation toxicity : Assessment: The substance or mixture has no acute

inhalation toxicity

phosphoric acid, triethyl ester:

Acute inhalation toxicity : LC50 (Rat, male and female): > 8.817 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

GLP: yes

Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rabbit): > 20,000 mg/kg

GLP: no

zinc compound catalyst (trade secret) *:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

tertiary amine catalyst (trade secret) *:

Acute oral toxicity : LD50 (Rat): 1,144 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 400 - 640 mg/kg

Skin corrosion/irritation

Components:

tertiary amine catalyst (trade secret) *:

Result: Corrosive

Serious eye damage/eye irritation

Components:

poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:

Species: Rabbit Result: irritating



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Serious eye damage/eye irritation

phosphoric acid, triethyl ester:

Species: Rabbit Result: Eye irritation

Method: OECD Test Guideline 405

Serious eye damage/eye irritation

zinc compound catalyst (trade secret) *:

Result: Irritating to eyes.

Serious eye damage/eye irritation

tertiary amine catalyst (trade secret) *:

Result: Risk of serious damage to eyes.

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 identified as a carcinogen or potential carcinogen by OSHA (29 CFR 1910 Subpart Z, Toxic and

Hazardous Substances).

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:

zinc compound catalyst (trade secret) *:

Reproductive toxicity -

: Suspected human reproductive toxicant

Assessment

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

trans-1-chloro-3,3,3-trifluoroprop-1-ene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): ca. 38 mg/l

End point: mortality Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (algae)): > 215 mg/l

Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201



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tris(2-chloro-1-methylethyl) phosphate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 51 mg/l

Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

GLP: yes

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 131 mg/l

End point: Immobilization Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 82

mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: static test

Method: OECD Test Guideline 201

GLP: yes

Remarks: No toxicity at the limit of solubility

Toxicity to fish (Chronic

toxicity)

NOEC: 5.2 mg/l

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

Toxicity to daphnia and other :

aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): 32 mg/l

End point: mortality Exposure time: 21 d Test Type: semi-static test

Method: OECD Test Guideline 211

GLP: yes

Toxicity to microorganisms : IC50 (activated sludge): 784 mg/l

End point: Growth rate Exposure time: 3 h

Test Type: Growth inhibition

Method: ISO 8192

GLP: yes

Toxicity to soil dwelling

organisms

: LC50 (Eisenia fetida (earthworms)): 33 mg/kg

Exposure time: 14 d

Method: OECD Test Guideline 207

GLP: no

diethylene glycol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 75,200 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

Exposure time: 24 h



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> Test Type: static test Method: DIN 38412

Toxicity to algae/aquatic

plants

EC10 (algae): 100 mg/l

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:

Toxicity to fish LC50 (Lepomis macrochirus (Bluegill sunfish)): ca. 84.7 mg/l

> End point: mortality Exposure time: 96 h Test Type: static test

Method: OECD Test Guideline 203

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): ca. 23.066 mg/l

End point: Immobilization Exposure time: 48 h Test Type: static test

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): ca. 19.485

mg/l

End point: Growth inhibition Exposure time: 72 h Test Type: static test

Remarks: The value is given based on a SAR/AAR approach

using OECD Toolbox, DEREK, VEGA QSAR models

(CAESAR models), etc.

phosphoric acid, triethyl ester:

Toxicity to algae/aquatic

plants

EC50 (Desmodesmus subspicatus (green algae)): 901 mg/l

Exposure time: 72 h

Toxicity to daphnia and other :

aquatic invertebrates (Chronic toxicity)

NOEC (Daphnia magna (Water flea)): 31.6 mg/l

Exposure time: 21 d Method: OECD Test Guideline 211

zinc compound catalyst (trade secret) *:

Toxicity to fish LC50 (Cyprinus carpio (Carp)): 30 - 70 mg/l

Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 5 mg/l

aquatic invertebrates

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 2.72

Exposure time: 72 h



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EC50 (activated sludge): > 1,000 mg/l Toxicity to microorganisms

Exposure time: 3 h

tertiary amine catalyst (trade secret) *:

Toxicity to fish LC50 (Fish): 100 - 215 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 267.94 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (algae): 202.5 mg/l Exposure time: 72 h

Toxicity to microorganisms EC50 (Pseudomonas putida): 1,050 mg/l

Exposure time: 7 h

Persistence and degradability

Components:

trans-1-chloro-3,3,3-trifluoroprop-1-ene:

Biodegradability

Biodegradation: 0 % Exposure time: 28 d

Method: OECD Test Guideline 301D

diethylene glycol:

Biodegradability aerobic

> Result: Readily biodegradable. Biodegradation: 90 - 100 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

trans-1-chloro-3,3,3-trifluoroprop-1-ene:

Partition coefficient: nlog Pow: ca. 2.2 (77 °F / 25 °C)

octanol/water pH: 7.4

Method: OECD Test Guideline 117

tris(2-chloro-1-methylethyl) phosphate:

Partition coefficient: nlog Pow: 2.68

octanol/water

diethylene glycol:

Bioaccumulation Species: Leuciscus idus (Golden orfe)

Bioconcentration factor (BCF): 100

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Exposure time: 3 d Concentration: 0.05 mg/l

Partition coefficient: n-

octanol/water

: log Pow: -1.98 (68 °F / 20 °C)

poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:

Partition coefficient: n- : log Pow: 5.669 (77 °F / 25 °C)

octanol/water pH: 7.5

Method: OECD Test Guideline 117

phosphoric acid, triethyl ester:

Partition coefficient: n- : log Pow: 1.11

octanol/water Method: Regulation (EC) No. 440/2008, Annex, A.8

zinc compound catalyst (trade secret) *:

Partition coefficient: n-

log Pow: > 5.7

octanol/water

tertiary amine catalyst (trade secret) *:

Partition coefficient: n-

: log Pow: -0.19

octanol/water

Mobility in soilNo 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).

Global warming potential

Global Warming Potentials - 40CFR Part 98 - Table A-1 to SubPart A.

Components:

trans-1-chloro-3,3,3-trifluoroprop-1-ene:

100-year global warming potential: 1.34

Further information: Unsaturated Hydrofluorocarbons (HFCs) and Hydrochlorofluorocarbons (HCFCs), This compound was added to Table A-1 in the final rule published on December 11, 2014, and effective on January 1, 2015.

UNEP - Handbook for the Montreal Protocol on Substances that Deplete the Ozone Layer

Components:

trichlorofluoromethane:

100-year global warming potential: 4,750



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Further information: Annex A - Group I: Chlorofluorocarbons, These ozone depleting potentials are estimates based on existing knowledge and will be reviewed and revised periodically, Annex D:* A list of products** containing controlled substances specified in Annex A 1. Automobile and truck air conditioning units (whether incorporated in vehicles or not) 2. Domestic and commercial refrigeration and air conditioning/heat pump equipment*** e.g. Refrigerators, Freezers, Dehumidifiers, Water coolers, Ice machines, Air conditioning and heat pump units 3. Aerosol products, except medical aerosols 4. Portable fire extinguisher 5. Insulation boards, panels and pipe covers 6. Pre-polymers * This Annex was adopted by the Third Meeting of the Parties in Nairobi, 21 June 1991 as required by paragraph 3 of Article 4 of the Protocol. ** Though not when transported in consignments of personal or household effects or in similar noncommercial situations normally exempted from customs attention. *** When containing controlled substances in Annex A as a refrigerant and/or in insulating material of the product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents/container to an approved facility in

accordance with local, regional, national and international

regulations.

Contaminated packaging : Empty remaining contents.

Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

Land transport

USDOT: Not classified as a dangerous good under transport regulations TDG: Not classified as a dangerous good under transport regulations

Sea transport

IMDG: Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO: Not classified as a dangerous good under transport regulations

SECTION 15. REGULATORY INFORMATION

TSCA list

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

Chemicals

No substances are subject to a Significant New Use Rule.

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D)

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

Clean Air Act

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



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TSCA : Product contains substance(s) not listed on TSCA inventory.

: bismuth-based catalyst (trade secret) *

DSL : This product contains the following components that are not

on the Canadian DSL nor NDSL.

: bismuth-based catalyst (trade secret) *

SECTION 16. OTHER INFORMATION

Further information

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Full text of other abbreviations

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)

US WEEL / TWA : 8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL -Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS -Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS -Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA -National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD -Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS -Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship: RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration. Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature: SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Disclaimer



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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.