JM CORBOND® IV 2.8 HFO Closed-cell Spray Polyurethane Foam (cc SPF) – Component B (USA)

Version 3.0 | Revision Date 05/05/2025 | Print Date 05/05/2025

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name	:	JM CORBOND® IV B 2.8 HFO Summer LAV, JM CORBOND® IV B 2.8 HFO Winter LAV

Manufacturer or supplier's details

Company	:	Johns Manville
Address	:	P.O. Box 5108 Denver, CO USA 80217-5108
Telephone	:	+1-303-978-2000
Emergency telephone number	:	24-Hour Number: +1-800-424-9300 (CHEMTREC)

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 the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity (Oral)	:	Category 4
Serious eye damage	:	Category 1
Carcinogenicity (Oral)	:	Category 2
Reproductive toxicity	:	Category 2

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H318 Causes serious eye damage.
H351 Suspected of causing cancer if swallowed.
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.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
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.

Storage:

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

Chemical nature

Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret)	trade secret	>= 10 - < 30
2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1)	13674-84-5	>= 5 - < 10
Ethanol, 2,2'-oxybis-; Diethylene glycol	111-46-6	>= 5 - < 10
1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-	102687-65-0	>= 5 - < 10
Phosphoric acid, triethyl ester; Triethyl phosphate	78-40-0	>= 1 - < 5
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	>= 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

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 person to fresh air. If signs/symptoms continue, get medical attention.

In case of skin contact	:	In case of contact, flush skin with plenty of water for at least 5 minutes. Call a physician if irritation develops or persists.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 30 minutes. If easy to do, remove contact lens, if worn. Protect unharmed eye. Continue rinsing eyes during transport to hospital.
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. If symptoms persist, call a physician or Poison Control Centre immediately.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed. Causes serious eye damage. Suspected of causing cancer if swallowed. Suspected of damaging fertility or the unborn child.
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 products	:	carbon oxides nitrogen oxides phosphorus oxides Hydrogen chloride gas fluorine compounds olefins Hydrogen fluoride chlorine compounds phenol
Specific extinguishing methods	:	Standard procedure for chemical fires.
Further information	:	Use a water spray to cool fully closed containers.
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	:	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

Advice on protection against fire and explosion	:	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. 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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol, 2,2'-oxybis-; Diethylene glycol	111-46-6	TWA	10 mg/m3	US WEEL
1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-	102687-65-0	TWA	800 ppm	US WEEL
Phosphoric acid, triethyl ester; Triethyl phosphate	78-40-0	TWA	7.45 mg/m3	US WEEL

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	:	Protective 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 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
Colour	:	lavender
Odour	:	amine-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	> 93.4 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	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-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	650 mPa.s (24 °C)

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 reactions	:	Contact with isocyanates will cause polymerization. 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 nitrogen oxides phosphorus oxides Hydrogen chloride gas fluorine compounds Hydrogen fluoride chlorine compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 1,841 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:

2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret):

Acute oral toxicity	:	LD50 (Rat): 1,370 mg/kg
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	LD50 (Rabbit): 12,800 mg/kg

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):

Acute oral toxicity	:	LD50 (Rat, female): 632 mg/kg Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)
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
Remarks: No mortality was observed.

Ethanol, 2,2'-oxybis-; Diethylene glycol:
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

1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-:
Acute inhalation toxicity : LC50 (Rat, male and female): 120000 ppm
Exposure time: 4 h
Test atmosphere: gas
Method: OECD Test Guideline 403

Phosphoric acid, triethyl ester; Triethyl phosphate:
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

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

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

Causes serious eye damage.

Components:

2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret):
Result: Corrosive

Serious eye damage/eye irritation

Phosphoric acid, triethyl ester; Triethyl phosphate:
Species: Rabbit
Result: Eye irritation
Method: OECD Test Guideline 405

Serious eye damage/eye irritation

Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:
Species: Rabbit
Result: irritating

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.

Carcinogenicity

Suspected of causing cancer if swallowed.

Components:

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies (oral)

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 - Assessment : Suspected human reproductive toxicant

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret):

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 17 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : LC50 (Mysidopsis bahia (opossum shrimp)): 2.6 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):

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

Ethanol, 2,2'-oxybis-; 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 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.

1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-:

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

Phosphoric acid, triethyl ester; Triethyl phosphate:

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

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.

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 aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 5 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 2.72 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h

Tertiary amine catalyst (trade secret):

Toxicity to fish	:	LC50 (Fish): 100 - 215 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	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:

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):

Biodegradability	:	Result: Inherently biodegradable. Result: Not readily biodegradable.

Ethanol, 2,2'-oxybis-; Diethylene glycol:

Biodegradability	:	aerobic Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 28 d Method: OECD Test Guideline 301B

1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-:

Biodegradability	:	aerobic Biodegradation: 0 % Exposure time: 28 d Method: OECD Test Guideline 301D

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

Biodegradability	:	Result: Readily biodegradable.

Bioaccumulative potential

Components:

2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret):

Partition coefficient: n-octanol/water	:	log Pow: 0.2

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):

Bioaccumulation	:	Bioconcentration factor (BCF): 0.8 - < 14
Partition coefficient: n-octanol/water	:	log Pow: 2.68 (86 °F / 30 °C)

Ethanol, 2,2'-oxybis-; Diethylene glycol:

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): 100 Exposure time: 3 d Concentration: 0.05 mg/l

Partition coefficient: n-octanol/water : log Pow: -1.98 (68 °F / 20 °C)

1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-:

Partition coefficient: n-octanol/water : log Pow: ca. 2.2 (77 °F / 25 °C)
pH: 7.4
Method: OECD Test Guideline 117

Phosphoric acid, triethyl ester; Triethyl phosphate:

Partition coefficient: n-octanol/water : log Pow: 1.11
Method: Regulation (EC) No. 440/2008, Annex, A.8

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

Partition coefficient: n-octanol/water : log Pow: 5.669 (77 °F / 25 °C)
pH: 7.5
Method: OECD Test Guideline 117

Zinc compound catalyst (trade secret):

Partition coefficient: n-octanol/water : log Pow: > 5.7

Tertiary amine catalyst (trade secret):

Partition coefficient: n-octanol/water : log Pow: -0.19

Mobility in soil

Components:

2,6-bis[[bis-(2-hydroxyethyl)amino]methyl]-4-branched nonylphenol, ethoxylated and propoxylated (trade secret):

Distribution among environmental compartments : Koc: > 5000
Remarks: immobile

2-Propanol, 1-chloro-, 2,2',2''-phosphate; 2-Propanol, 1-chloro-, phosphate (3:1):

Distribution among environmental compartments : Koc: 324.2

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 : Harmful to aquatic life with long lasting effects.

Global warming potential

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

Components:

1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-:
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.

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.

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ	Calculated product RQ

		(lbs)	(lbs)
Ethylene glycol; 1,2-Ethanediol	107-21-1	5000	> 50000
1,4-Dioxane	123-91-1	100	> 50000
Acetaldehyde	75-07-0	1000	> 50000
Oxirane, 2-methyl-; Propylene oxide	75-56-9	100	> 50000
Hydrochloric acid	7647-01-0	5000	> 50000
Oxirane; Ethylene oxide	75-21-8	10	> 50000
acetic acid	64-19-7	5000	> 50000

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Oxirane, 2-methyl-; Propylene oxide	75-56-9	100	> 50000
Hydrochloric acid	7647-01-0	5000	> 50000
Oxirane; Ethylene oxide	75-21-8	10	> 50000

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Carcinogenicity
Reproductive toxicity
Serious eye damage or eye irritation

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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.

Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Ethanol, 2,2'-oxybis-; Diethylene glycol 111-46-6 5 - 10 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Ethanol, 2,2'-oxybis-; Diethylene glycol 111-46-6 5 - 10 %

California Prop. 65

⚠**WARNING:** This product can expose you to chemicals including 1,4-Dioxane, Acetaldehyde, Oxirane, 2-methyl-; Propylene oxide, Oxirane; Ethylene oxide, which is/are known to the State of California to cause cancer, and Oxirane; Ethylene oxide, 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:

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

SECTION 16. OTHER INFORMATION

Further information

Revision Date : 05/05/2025

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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