

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

Version 1.1

Revision Date 01/12/2021

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SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM CORBOND® IV B Summer HI ALT LAV, JM CORBOND® IV B Summer LO ALT LAV, JM CORBOND® IV B Winter HI ALT LAV, JM CORBOND® IV B Winter LO ALT LAV

Manufacturer or supplier's details

Company : Johns Manville
Address : P.O. Box 5108
Denver, CO USA 80127
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

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 (OSHA HCS 2012)**

Acute toxicity (Oral) : Category 4
Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitisation : Category 1
Reproductive toxicity : Category 1B
Specific target organ toxicity - repeated exposure : Category 2 (Kidney, Pancreas)

GHS label elements

Hazard pictograms : 

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs (Kidney, Pancreas) through prolonged or repeated exposure.

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Precautionary statements

:

Prevention:

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 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.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P337 + P313 If eye irritation persists: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.

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

Hazardous components

Chemical name	CAS-No.	Concentration (%)
2-propanol, 1-chloro-, 2,2',2''-phosphate	13674-84-5	>= 20 - < 30
(2Z)-1,1,1,4,4,4-hexafluorobut-2-ene	692-49-9	>= 10 - < 20
diethylene glycol	111-46-6	>= 5 - < 10
ethane-1,2-diol	107-21-1	>= 1 - < 5
aromatic diamine (trade secret)		>= 1 - < 5
trans-dichloroethylene	156-60-5	>= 1 - < 5
aliphatic amine (trade secret)		>= 1 - < 5
amine (trade secret)		>= 1 - < 5
poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	>= 1 - < 5

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organotin compound (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 to fresh air. If breathing has stopped, apply artificial respiration. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.
In case of eye contact	:	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Keep respiratory tract clear. Obtain medical attention.
Most important symptoms and effects, both acute and delayed	:	Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Water spray Dry chemical Carbon dioxide (CO ₂) Foam
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides nitrogen oxides chlorine compounds fluorine compounds phosphorus oxides phenol olefins

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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

Recommended storage temperature : 10 - 27 °C

Storage period : 6 Months

Further information on storage stability : Keep containers dry and tightly closed to avoid moisture absorption and contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
(2Z)-1,1,1,4,4,4-hexafluorobut-2-ene	692-49-9	TWA	500 ppm 3,350 mg/m ³	US WEEL
diethylene glycol	111-46-6	TWA	10 mg/m ³	US WEEL
ethane-1,2-diol	107-21-1	C (Aerosol)	100 mg/m ³	ACGIH

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		only)		
		TWA (Vapour)	25 ppm	ACGIH
		STEL (Vapour)	50 ppm	ACGIH
		STEL (Inhalable fraction, Aerosol only)	10 mg/m ³	ACGIH
trans-dichloroethylene	156-60-5	TWA	200 ppm	ACGIH
organotin compound (trade secret)	Not Assigned	TWA	0.1 mg/m ³ (Tin)	OSHA
		TWA	0.1 mg/m ³ (Tin)	ACGIH
		STEL	0.2 mg/m ³ (Tin)	ACGIH
		TWA	0.1 mg/m ³ (Tin)	OSHA
		TWA	0.1 mg/m ³ (Tin)	NIOSH REL

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

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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	: liquid
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 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
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

SECTION 11. TOXICOLOGICAL INFORMATION**Acute toxicity**

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Product:

- Acute oral toxicity : Acute toxicity estimate : 1,843 mg/kg
Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate : 180 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method
- Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute toxicity**Components:****2-propanol, 1-chloro-, 2,2',2"-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

Acute toxicity**(2Z)-1,1,1,4,4,4-hexafluorobut-2-ene:**

- Acute inhalation toxicity : LC50 (Rat, male and female): 690.413 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute toxicity**diethylene glycol:**

- Acute oral toxicity : LD50 (Humans): 1,000 mg/kg

Acute toxicity**ethane-1,2-diol:**

- Acute oral toxicity : LD50 (Rat): 7,712 mg/kg
Method: Expert judgement
Assessment: The component/mixture is moderately toxic after single ingestion.
- Acute inhalation toxicity : LC50 (Rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: vapour
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity

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Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity : LD50 (Mouse, male and female): > 3,500 mg/kg

Acute toxicity
aromatic diamine (trade secret):

Acute oral toxicity : LD50 (Rat, male): 723 mg/kg
 Method: OECD Test Guideline 401
 GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.45 mg/l
 Exposure time: 1 h
 Test atmosphere: dust/mist
 GLP: no
 Assessment: The substance or mixture has no acute inhalation toxicity
 Remarks: No mortality was observed.

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
 Method: OECD Test Guideline 402
 GLP: yes
 Remarks: No mortality was observed.

Acute toxicity
trans-dichloroethylene:

Acute oral toxicity : LD50 (Rat, male): 7,902 mg/kg
 Method: Fixed Dose Method

Acute inhalation toxicity : LC50 (Rat): 24100 ppm
 Exposure time: 4 h
 Test atmosphere: vapour
 Method: OECD Test Guideline 403

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

Acute toxicity
aliphatic amine (trade secret):

Acute oral toxicity : LD50 (Rat, female): 1,389.36 mg/kg
 Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male): 992.4 mg/kg
 Method: OECD Test Guideline 402

Acute toxicity
amine (trade secret):

Acute oral toxicity : LD50 (Rat, male): ca. 2,382.88 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 1.8 mg/l
 Exposure time: 4 h
 Test atmosphere: vapour

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Acute dermal toxicity : LD50 (Rabbit, female): 1,171 mg/kg

Acute toxicity**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

Acute toxicity**organotin compound (trade secret):**Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 423Acute dermal toxicity : LD50 (Rabbit, female): > 1,000 - < 2,000 mg/kg
Method: OECD Test Guideline 402**Skin corrosion/irritation****Components:****aliphatic amine (trade secret):**

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes to 1 hour of exposure

Skin corrosion/irritation**amine (trade secret):**

Species: Rabbit

Result: Causes burns.

Skin corrosion/irritation**organotin compound (trade secret):**

Result: irritating

Serious eye damage/eye irritation**Components:****aromatic diamine (trade secret):**

Species: Rabbit

Result: Irritation to eyes, reversing within 21 days

Method: Draize Test

GLP: no

Serious eye damage/eye irritation**trans-dichloroethylene:**

Species: Rabbit

Result: irritating

Method: OECD Test Guideline 405

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Serious eye damage/eye irritation**aliphatic amine (trade secret):**

Species: Rabbit

Result: Risk of serious damage to eyes.

Method: OECD Test Guideline 405

Serious eye damage/eye irritation**amine (trade secret):**

Species: Rabbit

Result: Irreversible effects on the eye

Serious eye damage/eye irritation**poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:**

Species: Rabbit

Result: irritating

Respiratory or skin sensitisation**Components:****aromatic diamine (trade secret):****Respiratory or skin sensitisation****organotin compound (trade secret):**

Test Type: Maximisation Test

Exposure routes: Skin contact

Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 406

Remarks: Based on data from similar materials

Germ cell mutagenicity**Components:****organotin compound (trade secret):**

Germ cell mutagenicity- : In vitro tests showed mutagenic effects

Assessment

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:****organotin compound (trade secret):**

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Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

STOT - single exposure**Components:****trans-dichloroethylene:**

Exposure routes: inhalation (vapour)

Target Organs: Central nervous system

Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure**Components:****ethane-1,2-diol:**

Exposure routes: Ingestion

Target Organs: Kidney

Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

STOT - repeated exposure**aromatic diamine (trade secret):**

Target Organs: Pancreas

Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

STOT - repeated exposure**organotin compound (trade secret):**

Target Organs: thymus

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

Repeated dose toxicity**Components:****diethylene glycol:**

Species: Rat

1600 mg/kg

Application Route: Oral

Target Organs: Kidney

aromatic diamine (trade secret):

Species: Rat, male

NOAEL: 21 mg/kg

Application Route: Ingestion

Method: OECD Test Guideline 408

GLP: yes

Target Organs: Pancreas

SECTION 12. ECOLOGICAL INFORMATION

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Ecotoxicity**Product:****Ecotoxicology Assessment**

- Acute aquatic toxicity : Toxic to aquatic life.
- Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Components:**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

aromatic diamine (trade secret):

- Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 200.0 mg/l
Exposure time: 48 h
Method: DIN 38412
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 0.5 mg/l
Exposure time: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2
- Toxicity to algae : ErC50 (algae): 104 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

Ecotoxicology Assessment

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

trans-dichloroethylene:

- Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 135 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 220 mg/l
Exposure time: 48 h
Test Type: static test
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (algae)): 36.36 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 201

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aliphatic amine (trade secret):

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): ca. 92.5 mg/l
 End point: mortality
 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)): 31.0 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (algae)): 34.99 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (algae)): 25 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 2.2 mg/l
 Exposure time: 21 d
 Test Type: semi-static test
 Method: OECD Test Guideline 211

amine (trade secret):

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): ca. 92.5 mg/l
 End point: mortality
 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 : EC50 (Daphnia magna (Water flea)): 48 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: semi-static test
 Method: Regulation (EC) No. 440/2008, Annex, C.2
- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 74.9 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: Regulation (EC) No. 440/2008, Annex, C.3

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

- Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): 19.48 mg/l
 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.

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Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

organotin compound (trade secret):Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.023 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): >= 1.6 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials**Persistence and degradability****Components:****diethylene glycol:**Biodegradability : aerobic
Result: Readily biodegradable.
Biodegradation: 90 - 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301B**ethane-1,2-diol:**Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %**aromatic diamine (trade secret):**

Biodegradability : Result: Not readily biodegradable.

trans-dichloroethylene:Biodegradability : aerobic
Inoculum: activated sludge
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301D**aliphatic amine (trade secret):**Biodegradability : aerobic
Inoculum: activated sludge, non-adapted
Result: Not readily biodegradable.
Biodegradation: > 0 - < 10 %
Exposure time: 42 d
Method: OECD Test Guideline 301A**amine (trade secret):**Biodegradability : Inoculum: activated sludge
Concentration: 100 mg/l

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Result: Not readily biodegradable.
Biodegradation: 0.9 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

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

Biodegradability : Result: Readily biodegradable.

organotin compound (trade secret):

Biodegradability : aerobic
Inoculum: activated sludge
Concentration: 34.3 mg/l
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Information taken from reference works and the literature.

Bioaccumulative potential**Components:****2-propanol, 1-chloro-, 2,2',2"-phosphate:**

Partition coefficient: n-
octanol/water : log Pow: 2.68

(2Z)-1,1,1,4,4-hexafluorobut-2-ene:

Partition coefficient: n-
octanol/water : log Pow: 2.3 (30 °C)
pH: 6.1
Method: OECD Test Guideline 117

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

ethane-1,2-diol:

Partition coefficient: n-
octanol/water : log Pow: -1.36 (25 °C)

aromatic diamine (trade secret):

Partition coefficient: n-
octanol/water : log Pow: 1.38 (25 °C)

trans-dichloroethylene:

Partition coefficient: n-
octanol/water : log Pow: 2.06

amine (trade secret):

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Partition coefficient: n-octanol/water : log Pow: 0 - 0.05 (25 °C)
pH: 12.2

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

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

organotin compound (trade secret):

Partition coefficient: n-octanol/water : log Pow: 3.11 (22 °C)
pH: 6.1 - 6.7
Method: OECD Test Guideline 107

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).

Global warming potential**Global Warming Potentials - 40CFR Part 98 -Table A-1 to SubPart A.****Components:****(2Z)-1,1,1,4,4,4-hexafluorobut-2-ene:**

100-year global warming potential: 1.58
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

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

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International transport regulations

Land transport

USDOT: 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 : The following substance(s) is/are subject to a Significant New Use Rule: (2Z)-1,1,1,4,4,4-hexafluorobut-2-ene

U.S. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpart D) : The following substance(s) is/are subject to TSCA 12(b) export notification requirements: (2Z)-1,1,1,4,4,4-hexafluorobut-2-ene

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

CERCLA Reportable Quantity

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

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

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

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ethane-1,2-diol	107-21-1	1 - 5 %
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Clean Air Act

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

diethylene glycol	111-46-6	5 - 10 %
ethane-1,2-diol	107-21-1	1 - 5 %

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 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

diethylene glycol	111-46-6	5 - 10 %
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**JM CORBOND® IV Closed-cell Spray Polyurethane Foam (cc SPF) –
Component B (USA)**

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ethane-1,2-diol

107-21-1

1 - 5 %

California Prop. 65

This product does not require a warning under the California Safe Drinking Water and Toxic Enforcement Act (Proposition 65).

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

TSCA : All substances listed as active on the TSCA inventory

SECTION 16. OTHER INFORMATION**Further information**

Revision Date : 01/12/2021

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.