

**JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) –
Component B (USA)**

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Trade name : JM CORBOND® oc SPF

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 : 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**

Acute toxicity (Oral) : Category 4
Skin corrosion : Category 1C
Serious eye damage : Category 1

GHS label elementsHazard pictograms : 

Signal word : Danger

Hazard statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
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.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT
induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately
all contaminated clothing. Rinse skin with water/ shower.

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

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.

P363 Wash contaminated clothing 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

Chemical nature

Mixture

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
tris(2-chloro-1-methylethyl) phosphate	13674-84-5	>= 10 - < 30
4-Nonylphenol branched, ethoxylated	127087-87-0	>= 10 - < 30
aliphatic amine catalyst (trade secret)	trade secret	>= 1 - < 5
ethanol amine catalyst (trade secret)	trade secret	>= 1 - < 5
2-butyne-1,4-diol, polymer with 2-(chloromethyl)oxirane, brominated, dehydrochlorinated, methoxylated	68441-62-3	>= 1 - < 5

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 skin with plenty of water for at least 30 minutes while removing contaminated clothing and shoes.
Get medical attention immediately.
Destroy contaminated clothing and shoes.

- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 30 minutes.

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

If swallowed	:	If easy to do, remove contact lens, if worn. Protect unharmed eye. Continue rinsing eyes during transport to hospital. 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 serious eye damage. Causes severe burns.
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 phosphorus oxides Hydrogen chloride gas phenol nitrogen oxides Bromine compounds hydrogen bromide Silicon oxides
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.

**JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) –
Component B (USA)**

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

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 : 40 - 85 °F / 4 - 29 °C
- Further information on storage stability : Keep containers dry and tightly closed to avoid moisture absorption and contamination.
Do not freeze.

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

Contains no substances with occupational exposure limit values.,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 : 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.

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

Skin and body protection	: 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.
Hygiene measures	: 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. 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	: amber
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	: 300 mPa.s (25 °C)
Viscosity, kinematic	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No dangerous reaction known under conditions of normal use.
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JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

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	:	Hazardous decomposition products formed under fire conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 1,549 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg Method: Calculation method

Components:

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

4-Nonylphenol branched, ethoxylated:

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

aliphatic amine catalyst (trade secret):

Acute oral toxicity	:	LD50 (Rat, male and female): 1,250 mg/kg Method: OECD Test Guideline 401
Acute dermal toxicity	:	LD50 (Rabbit, male): 370 mg/kg Method: OECD Test Guideline 402

ethanol amine catalyst (trade secret):

Acute oral toxicity	:	LD50 (Rat, female): ca. 2,150 mg/kg Method: OECD Test Guideline 401
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**JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) –
Component B (USA)**

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

Acute inhalation toxicity : LC50 (Rat, male and female): 0.392 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 1,663 mg/kg
Method: OECD Test Guideline 402

2-butyne-1,4-diol, polymer with 2-(chloromethyl)oxirane, brominated, dehydrochlorinated, methoxylated:

Acute oral toxicity : LD50 (Rat, male): 1,337 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): 5.47 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: No mortality was observed.

Skin corrosion/irritation**Components:****aliphatic amine catalyst (trade secret):**

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive after 3 minutes to 1 hour of exposure
Remarks: Based on data from similar materials

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

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive after 1 to 4 hours of exposure

Serious eye damage/eye irritation**Components:****4-Nonylphenol branched, ethoxylated:**

Species: Rabbit
Result: irritating

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

Result: Corrosive

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

Species: Rabbit
Result: Corrosive

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

Method: OECD Test Guideline 405

Serious eye damage/eye irritation

2-butyne-1,4-diol, polymer with 2-(chloromethyl)oxirane, brominated, dehydrochlorinated, methoxylated:

Species: Rabbit

Result: irritating

Method: OECD Test Guideline 405

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.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

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

4-Nonylphenol branched, ethoxylated:

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.

aliphatic amine catalyst (trade secret):

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 21.4 mg/l
 End point: mortality
 Exposure time: 96 h
 Test Type: static test

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

	Method: DIN 38412 GLP: yes
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 50.3 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	: EC50 (Raphidocelis subcapitata (freshwater green alga)): 7.9 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Method: DIN 38412 GLP: yes
Toxicity to microorganisms	: EC50 (activated sludge): > 1,000 mg/l End point: Respiratory function Exposure time: 3 h Test Type: static test Analytical monitoring: no Method: OECD Test Guideline 209 GLP: yes

ethanol amine catalyst (trade secret):

Toxicity to fish	: LC50 (Leuciscus idus (Golden orfe)): > 464 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: no Test substance: Neutralised product Method: DIN 38412 GLP: no
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Test substance: Non neutralised product Method: OECD Test Guideline 202 GLP: yes
Toxicity to algae/aquatic plants	: EC50 (Raphidocelis subcapitata (freshwater green alga)): 160 mg/l End point: Growth inhibition Exposure time: 72 h Test Type: static test Test substance: Non neutralised product Method: OECD Test Guideline 201 GLP: yes
Toxicity to microorganisms	: EC50 (activated sludge): > 1,000 mg/l

**JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) –
Component B (USA)**

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

End point: Respiratory function
Exposure time: 3 h
Test Type: static test
Analytical monitoring: no
Method: OECD Test Guideline 209
GLP: yes

Persistence and degradability**Components:****4-Nonylphenol branched, ethoxylated:**

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential**Components:****tris(2-chloro-1-methylethyl) phosphate:**

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

4-Nonylphenol branched, ethoxylated:

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

aliphatic amine catalyst (trade secret):

Partition coefficient: n- : log Pow: 0.214 (71.1 °F / 21.7 °C)
octanol/water pH: 11.5
Method: OECD Test Guideline 107

ethanol amine catalyst (trade secret):

Partition coefficient: n- : log Pow: -0.778 (68 °F / 20 °C)
octanol/water Method: OECD Test Guideline 107

**2-butyne-1,4-diol, polymer with 2-(chloromethyl)oxirane, brominated, dehydrochlorinated,
methoxylated:**

Partition coefficient: n- : log Pow: -0.3 - 3.3 (77 °F / 25 °C)
octanol/water pH: 7
Method: OECD Test Guideline 117

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

JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) – Component B (USA)

Version 3.2 Revision Date 05/21/2024 Print Date 05/21/2024

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.

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 (lbs)	Calculated product RQ (lbs)
ethylene oxide	75-21-8	10	> 50000

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)

**JM CORBOND® Open-cell Spray Polyurethane Foam (oc SPF) –
Component B (USA)**

Version 3.2

Revision Date 05/21/2024

Print Date 05/21/2024

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

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.