

**JM Open Cell 450 SPF**

Version 1.0

Revision Date 09/12/2022

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**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Trade name : JM Open Cell 450 SPF

## Manufacturer or supplier's details

Company : Johns Manville  
Address : P.O. Box 5108  
Denver, CO USA 80127  
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  
Acute toxicity (Inhalation) : Category 4  
Skin corrosion : Category 1B  
Serious eye damage : Category 1

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 + H332 Harmful if swallowed or if inhaled.  
H314 Causes severe skin burns and eye damage.

Precautionary statements :

**Prevention:**

P261 Avoid breathing mist or vapours.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
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

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induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 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
poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	>= 10 - <= 30
ethanol amine catalyst (trade secret)		>= 5 - <= 10
aliphatic amine catalyst (trade secret)		>= 1 - <= 5
alkanolamine catalyst (trade secret)		>= 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 eye contact, remove contact lens and rinse

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		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 or if inhaled. 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 (CO <sub>2</sub> ) Foam
Unsuitable extinguishing media	:	High volume water jet
Hazardous combustion products	:	carbon oxides phosphorus oxides Hydrogen chloride gas Hydrocarbons nitrogen oxides hydrogen cyanide
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

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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	:	50 - 80 °F / 10 - 27 °C
Storage period	:	6 Months
Further information on storage stability	:	Keep containers tightly closed in a dry, cool and well-ventilated place.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### 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.

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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 : 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 : 100 - 342 °C  
Flash point : 200 °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 : 1.08(Water = 1.0)  
Density : 1.08 g/cm<sup>3</sup>  
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 : 140 - 170 mPa.s (25 °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 : carbon oxides  
nitrogen oxides

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 Hydrocarbons  
 phosphorus oxides  
 Hydrogen cyanide (hydrocyanic acid)  
 Hydrogen chloride gas

**SECTION 11. TOXICOLOGICAL INFORMATION**
**Acute toxicity**
**Product:**

- Acute oral toxicity : Acute toxicity estimate : 1,408 mg/kg  
 Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate : 18 mg/l  
 Exposure time: 4 h  
 Test atmosphere: vapour  
 Method: Calculation method
- Acute dermal toxicity : Acute toxicity estimate : 2,270 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

**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

**ethanol amine catalyst (trade secret):**

- Acute oral toxicity : LD50 (Rat, female): ca. 2,150 mg/kg  
 Method: OECD Test Guideline 401
- 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

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**aliphatic amine catalyst (trade secret):**Acute oral toxicity : LD50 (Rat, male and female): 1,250 mg/kg  
Method: OECD Test Guideline 401Acute dermal toxicity : LD50 (Rabbit, male): 370 mg/kg  
Method: OECD Test Guideline 402**Skin corrosion/irritation****Components:****ethanol amine catalyst (trade secret):**Species: Rabbit  
Method: OECD Test Guideline 404  
Result: Corrosive after 1 to 4 hours of exposure**Skin corrosion/irritation****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****alkanolamine catalyst (trade secret):**

Result: Corrosive after 3 minutes to 1 hour of exposure

**Serious eye damage/eye irritation****Components:****poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:**Species: Rabbit  
Result: irritating**Serious eye damage/eye irritation****ethanol amine catalyst (trade secret):**Species: Rabbit  
Result: Corrosive  
Method: OECD Test Guideline 405**Serious eye damage/eye irritation****aliphatic amine catalyst (trade secret):**

Result: Corrosive

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

Result: Corrosive

**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.

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<b>OSHA</b>	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).
<b>NTP</b>	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 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



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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

**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.

**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

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

**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  
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

**Persistence and degradability****Components:****poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched:**

Biodegradability : Result: Readily biodegradable.

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**Bioaccumulative potential****Components:****tris(2-chloro-1-methylethyl) phosphate:**Partition coefficient: n-  
octanol/water : log Pow: 2.68**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**ethanol amine catalyst (trade secret):**Partition coefficient: n-  
octanol/water : log Pow: -0.778 (68 °F / 20 °C)  
Method: OECD Test Guideline 107**aliphatic amine catalyst (trade secret):**Partition coefficient: n-  
octanol/water : log Pow: 0.214 (71.1 °F / 21.7 °C)  
pH: 11.5  
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).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

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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

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

##### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
 Skin corrosion or irritation  
 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

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489).

#### California Prop. 65

 **WARNING:** This product can expose you to chemicals including ethylene oxide, which is/are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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

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

**SECTION 16. OTHER INFORMATION****Further information**

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**Full text of other abbreviations**

AllC - 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**

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.

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