

Safety Data Sheet

AO-22

1. Identification

Product name	: AO-22
Synonym	: 1,4-Benzenediamine, N1,N4-bis(1-methylpropyl)-; 1,4-Benzenediamine, N, N'-bis(1-methylpropyl)-; p-Phenylenediamine, N,N'-di-sec-butyl-; N,N'-Bis (1-methylpropyl)-1,4-benzenediamine
CAS number	: 101-96-2
Material uses	: Petrochemical industry: Petrochemicals. Fuel additive. Antioxidant.
Internal code	: 10000
System code	: 10000
Date of issue/Date of revision	: 9/27/2021
Date of previous issue	: 9/27/2021
Version	: 1.01
Supplier	: Innospec Canada Limited 1500, 850- 2nd Street S.W. Calgary, Alberta T2P 0R8
Information contact	: 1-800-441-9547
e-mail address of person responsible for this SDS	: sdsinfo@innospecinc.com
NON-emergency enquiries	: corporatecommunications@innospecinc.com
Emergency telephone number	

In USA, Canada and North America, 24 hour / 7 day emergency information for our product is provided by the CHEMTREC® Emergency Call Center based in the USA

Country information : **Emergency telephone number**

USA, Canada, Puerto Rico, Virgin Islands : +1 800 424 9300

In case of difficulties, or for ships at sea : +1 703 527 3887

In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network



The main regional centres are listed here in Section 1.

Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

Country information	Emergency telephone number	Location
South America (all countries)	: +1 215 207 0061	Philadelphia USA
Brazil	: +55 11 3197 5891	Brazil
Mexico	: +52 555 004 8763	Mexico

Date of issue/Date of revision : 9/27/2021

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1. Identification

Europe (all countries) Middle East, Africa (French, Portuguese, English)	: +44 (0) 1235 239 670	London, UK
Middle East, Africa (Arabic, French, English , Portuguese, Farsi)	: +44 (0) 1235 239 671	London, UK
Asia Pacific (all countries except China)	: +65 3158 1074	Singapore
China	: 400 120 6011	Beijing China

Section 2. Hazards identification

Classification of the substance or mixture	: ACUTE TOXICITY (oral) - Category 3 ACUTE TOXICITY (dermal) - Category 3 ACUTE TOXICITY (inhalation) - Category 3 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1A SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 Health Hazards Not Otherwise Classified - Category 1
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GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H373 - May cause damage to organs through prolonged or repeated exposure.
Causes digestive tract burns.

Precautionary statements

Prevention

: P280 - Wear protective gloves: > 8 hours (breakthrough time): PTFE< 1 hour (breakthrough time): neoprene. Wear protective clothing: Recommended: chemical-resistant protective suitPossible: safety apron. Wear eye or face protection: Recommended: face shield , splash gogglesPossible: splash goggles.
P260 - Do not breathe gas, fumes or vapor.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash thoroughly after handling.

Response

: P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P363 - Wash contaminated clothing before reuse.
P302 + P312, P352 - IF ON SKIN: Call a POISON CENTER or doctor if you feel unwell. Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several

Section 2. Hazards identification

	minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Do not taste or swallow. Wash thoroughly after handling.
Hazards not otherwise classified	: None known.
Target organs	: Causes damage to the following organs: skin, eyes. May cause damage to the following organs: blood, liver, gastrointestinal tract.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Substance/mixture	: Substance
Chemical name	: N,N'-di-sec-butyl-p-phenylenediamine
Other means of identification	: 1,4-Benzenediamine, N1,N4-bis(1-methylpropyl)-; 1,4-Benzenediamine, N,N'-bis(1-methylpropyl)-; p-Phenylenediamine, N,N'-di-sec-butyl-; N,N'-Bis(1-methylpropyl)-1,4-benzenediamine

Ingredient name	%	CAS number
N,N'-di-sec-butyl-p-phenylenediamine	95 - 100	101-96-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
Inhalation	: Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled.
- Skin contact** : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.
- Ingestion** : Toxic if swallowed. Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Flash point** : Closed cup: >93°C (>199.4°F) [Pensky-Martens.]

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

- Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
Recommended: face shield , splash goggles
Possible: splash goggles

Skin protection

Section 8. Exposure controls/personal protection

Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): PTFE < 1 hour (breakthrough time): neoprene
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: chemical-resistant protective suit Possible: safety apron
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: neoprene
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapor filter (Type A)
Personal protective equipment (Pictograms)	: 

Section 9. Physical and chemical properties

Appearance

Physical state	: Liquid. [Clear.]
Color	: Red. [Dark]
Odor	: Characteristic. Amine-like.
Odor threshold	: Not available.
pH	: 9 [Conc. (% w/w): 0.1%]
Melting point	: 18°C (64.4°F)
Boiling point	: 225 to 310°C (437 to 590°F)
Boiling Range	: Not available.
Flash point	: Closed cup: >93°C (>199.4°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Lower: 0.6%
Vapor pressure	: 0.2 kPa (1.2 mm Hg) (at 20°C)
Vapor density	: Not available.
Density	: 0.944 g/cm ³ [16°C (60.8°F)]
Relative density	: 0.9
Density	: 7.83 lbs/gal
Solubility	: Very slightly soluble in the following materials: cold water, hot water.

Section 9. Physical and chemical properties

Solubility in water	: 0.09575 g/l
Partition coefficient: n-octanol/water	: 3.5
Auto-ignition temperature	: 329°C (624.2°F)
Decomposition temperature	: Not available.
Viscosity	: Kinematic (room temperature): 0.3 cm ² /s (30 cSt) Kinematic (40°C (104°F)): 0.11 cm ² /s (11 cSt)

Aerosol product

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data. Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Dose
p-phenylenediamine, N,N'-di-sec-butyl-	-	Rat	LC50 Inhalation Vapor	247 mg/l
	-	Rabbit	LD50 Dermal	2806 mg/kg
	-	Rabbit	LD50 Dermal	>2000 mg/kg
	-	Rat	LD50 Oral	148 mg/kg
	-	Rat	LD50 Oral	201 to 400 mg/kg
	-	Rabbit	LD50 Dermal	2806 mg/kg
N,N'-di-sec-butyl-p-phenylenediamine	-	Rat	LD50 Dermal	450 mg/kg
	OECD 402 Acute Dermal Toxicity	Rat - Male, Female	LD50 Dermal	756 mg/kg
	-	Rat - Male, Female	LD50 Oral	271 mg/kg
	-			

Conclusion/Summary : Not available.

Potential chronic health effects

Not available.

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Test	Species	Result
p-phenylenediamine, N,N'-di-sec-butyl-	-	Rabbit	Eyes - Severe irritant -
N,N'-di-sec-butyl-p-phenylenediamine	-	Rabbit	Skin - Severe irritant -
	-	Rabbit	Eyes - Severe irritant -
	-	Rabbit	Skin - Severe irritant -

Conclusion/Summary

Skin : Severely irritating to the skin.

Eyes : Severely irritating to eyes.

Sensitization

Product/ingredient name	Test	Species	Result
N,N'-di-sec-butyl-p-phenylenediamine	-	Guinea pig	Sensitizing -

Mutagenicity

Not available.

Carcinogenicity

Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
N,N'-di-sec-butyl-p-phenylenediamine	Category 2	-	-

Aspiration hazard

Not available.

Information on the likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Toxic if inhaled.

Skin contact : Causes severe burns. Toxic in contact with skin. May cause an allergic skin reaction.

Ingestion : Toxic if swallowed. Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

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Section 11. Toxicological information

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.
- Conclusion/Summary** : Not available.
- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates (ATE)

Route	ATE value
Oral	148 mg/kg
Dermal	450 mg/kg
Inhalation (vapors)	3 mg/l

- Interactive effects** : Not available.

- Other information** : Adverse symptoms include the following: methemoglobinemia

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
N,N'-di-sec-butyl-p-phenylenediamine	Acute EC50 0.0958 mg/l	Algae	72 hours
	Acute EC50 0.939 mg/l	Algae	72 hours
	Acute EC50 0.54 mg/l	Daphnia	48 hours
	Acute LC50 0.13 mg/l	Fish	96 hours
	Chronic NOEC 0.0029 mg/l	Daphnia	21 days
	Chronic NOEC 0.0037 mg/l	Fish	41 days

Persistence and degradability

Product/ingredient name	Test	Result
N,N'-di-sec-butyl-p-phenylenediamine	OECD 301C Ready Biodegradability - Modified MITI Test (I)	12 % - 28 days

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
N,N'-di-sec-butyl-p-phenylenediamine	Fresh water 9.6 days, pH 4, 20°C (OECD 111) Fresh water 0.22 days, pH 7, 20°C (OECD 111) Fresh water 0.0625 days, pH 9, 20°C (OECD 111)	50%; < 28 day(s)	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
N,N'-di-sec-butyl-p-phenylenediamine	3.5	99.42	low

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Section 14. Transport information

	DOT Classification	TDG Classification	IATA
UN number	UN2922	UN2922	UN2922
UN proper shipping name	Corrosive liquids, toxic, n.o.s. (p-phenylenediamine, N,N'-di-sec-butyl-). Marine pollutant	CORROSIVE LIQUID, TOXIC, N.O.S. (p-phenylenediamine, N, N'-di-sec-butyl-). Marine pollutant (p-phenylenediamine, N,N'-di-sec-butyl-)	Corrosive liquid, toxic, n.o.s. (p-phenylenediamine, N,N'-di-sec-butyl-)
Transport hazard class(es)	8 (6.1) 	8 (6.1) 	8 (6.1) 
Packing group	III	III	III
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. Limited quantity Yes. Packaging instruction Exceptions: 154. Non-bulk: 203. Bulk: 241. Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L. Special provisions IB3, T7, TP1, TP28	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.26-2.36 (Class 6), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail. Explosive Limit and Limited Quantity Index 5 Passenger Carrying Road or Rail Index 5 Special provisions 16	The environmentally hazardous substance mark may appear if required by other transportation regulations. Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841. Special provisions A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

Canada

Canadian lists

- Canada inventory : All components are listed or exempted.
- Canadian NPRI : None of the components are listed.
- CEPA Toxic substances : None of the components are listed.

Section 15. Regulatory information

International lists

National inventory

Australia inventory (AICS)

Canada inventory

China inventory (IECSC)

Europe inventory

Japan inventory (ENCS)

- : All components are listed or exempted.
- : All components are listed or exempted.
- : All components are listed or exempted.
- : All components are listed or exempted.
- : **Japan inventory (ENCS)**: All components are listed or exempted.
- Japan inventory (ISHL)**: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC)

Philippines inventory (PICCS)

Korea inventory (KECI)

Taiwan inventory (TCSI)

United States inventory (TSCA 8b)

- : All components are listed or exempted.
- : All components are listed or exempted.
- : All components are listed or exempted.
- : All components are listed or exempted.
- : All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health	*	3
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Classification according to Directive 67/548/EEC [DSD] or Classification according to Directive 1999/45/EC [DPD]

Section 16. Other information

- Risk phrases** :
- R23/25- Toxic by inhalation and if swallowed.
 - R21- Harmful in contact with skin.
 - R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 - R34- Causes burns.
 - R36- Irritating to eyes.
 - R43- May cause sensitization by skin contact.
 - R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- Safety phrases** :
- S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
 - S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
 - S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

History

- Date of printing** : 2021-09-27
- Date of issue/Date of revision** : 9/27/2021(YYYY-MM-DD^))
- Date of previous issue** : 9/27/2021(YYYY-MM-DD^))
- Version** : 1.01
- Key to abbreviations** :
- ATE = Acute Toxicity Estimate
 - BCF = Bioconcentration Factor
 - GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 - IATA = International Air Transport Association
 - IBC = Intermediate Bulk Container
 - IMDG = International Maritime Dangerous Goods
 - LogPow = logarithm of the octanol/water partition coefficient
 - MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 - UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.