



2870 CRESTWOOD BLVD. STE B  
IRONDALE, AL 35210  
205-957-0020



**DEFENDER**

**DEFENDER AR45 SIDE A**  
**SAFETY DATA SHEET**

**SECTION 1. IDENTIFICATION**

<b>PRODUCT ID</b>	DEFENDER AR50 ISOCYANATE
<b>PRODUCT NAME</b>	DEFENDER AR50 ISOCYANATE
<b>REVISION DATE</b>	JULY 29, 2024
<b>VERSION</b>	1.0
<b>MANUFACTURER'S NAME</b>	IXS
<b>ADDRESS</b>	1155 RICHARD PETTY WAY LEBANON, TN 37090
<b>EMERGENCY PHONE</b>	CHEMTREC: 800-424-9300
<b>INFORMATION PHONE NUMBER</b>	(205) 957-0020
<b>FAX</b>	N/A
<b>PRODUCT/RECOMMENDED USES</b>	POLYURETHANE COMPONENT, INDUSTRIAL CHEMICALS
<b>DATE PRINTED</b>	JULY 29, 2024
<b>SUPERSEDES DATE:</b>	N/A

**SECTION 2. HAZARDS IDENTIFICATION**

**CLASSIFICATIONS**

Acute toxicity Inhalation - Category 4

Acute toxicity Oral - Category 5

Eye Irritation - Category 2

Respiratory Sensitizer (Solid/Liquid) - Category 1

Skin Irritation - Category 2

Skin Sensitizer - Category 1

Specific Target Organ Toxicity - Repeated Exposure - Category 2

Specific Target Organ Toxicity -Single Exposure (Respiratory Tract Irritation) - Category 3

**PICTOGRAMS**



**HAZARD STATEMENTS - HEALTH**

Harmful if inhaled

May be harmful if swallowed

Causes serious eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Causes skin irritation

May cause an allergic skin reaction

May cause damage to organs through prolonged or repeated exposure

May cause respiratory irritation



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### PRECAUTIONARY STATEMENTS - GENERAL

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use.

### PRECAUTIONARY STATEMENTS - PREVENTION

Use only outdoors or in a well-ventilated area.  
Wash hands thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
In case of inadequate ventilation, wear respiratory protection.  
Contaminated work clothing should not be allowed out of the workplace.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Keep container tightly closed

### PRECAUTIONARY STATEMENTS - RESPONSE

IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Call a POISON CENTER/doctor if you feel unwell.  
IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
IF ON SKIN: Wash with plenty of water.  
Specific treatment (see first-aid on this label).  
Take off contaminated clothing. And wash it before reuse.  
If skin irritation or a rash occurs: Get medical advice/attention.  
Get Medical advice/attention if you feel unwell.

### PRECAUTIONARY STATEMENTS - STORAGE

Store in a well-ventilated place. Store locked up.

### PRECAUTIONARY STATEMENTS - DISPOSAL

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.



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### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS	CHEMICAL NAME	% BY WEIGHT
0000101-68-8	4,4'-METHYLENEDIPHENYL DIISOCYANATE	34% - 57%
0009082-00-2	POLYGLYCOL 15(POLYMER OF GLYCERINE, ETHYLENEOX	27% - 45%
0000108-32-7	CARBONIC ACID, CYCLIC PROPYLENE ESTER	1.20% - 4.8%
0026447-40-5	MDI (MONOMER)	0.18% - 3.5%

### SECTION 4. FIRST AID MEASURES

#### INHALATION

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

#### EYE CONTACT

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face.

#### SKIN CONTACT

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation or rash occurs: Wash contaminated clothing before re-use or discard.

#### INGESTION

Rinse mouth. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. If exposed/If you feel unwell/If concerned:



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### **MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Causes skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

### **INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

Specific antidotes or neutralizers to isocyanates do not exist. Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

## **SECTION 5. FIRE FIGHTING MEASURES**

### **SUITABLE EXTINGUISHING MEDIA**

Dry chemical, carbon dioxide, water spray, fog or foam.

### **UNSUITABLE EXTINGUISHING MEDIA**

Do NOT use water jet.

### **SPECIFIC HAZARDS IN CASE OF FIRE**

Fire will produce irritating and toxic gases. Decomposition products may include carbon oxides, nitrous gases, isocyanate vapors.



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### **FIRE-FIGHTING PROCEDURES**

Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

### **SPECIAL PROTECTIVE ACTIONS**

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighter protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **EMERGENCY PROCEDURE**

Evacuate and isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch or walk through spilled material.

### **RECOMMENDED EQUIPMENT**

Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA). Breathing protection is required.

### **PERSONAL PRECAUTIONS**

DO NOT breathe vapor or mist.

DO NOT get on skin, eyes or clothing.

### **ENVIRONMENTAL PRECAUTIONS**

Prevent further leakage or spillage if safe to do so. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

### **METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP**

For small amounts: Absorb isocyanate with suitable absorbent material. Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.



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### SECTION 7. HANDLING AND STORAGE

#### GENERAL

Wash hands after use.  
Do not get in eyes, on skin or on clothing.  
Do not breathe vapors or mists.  
Use good personal hygiene practices.  
Eating, drinking and smoking in work areas is prohibited.  
Remove contaminated clothing and protective equipment before entering eating areas.  
All containers must be properly labelled.  
Eyewash stations and showers should be available in areas where this material is used and stored.

#### VENTILATION REQUIREMENTS

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately.

#### STORAGE ROOM REQUIREMENTS

Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Keep containers securely sealed when not in use. Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2). Formation of CO<sub>2</sub> and build-up of pressure possible. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Empty containers retain residue and may be dangerous.

Storage temperature: 60 - 80°F. Protect against moisture

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### EYE PROTECTION

Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

#### SKIN PROTECTION

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Cover as much of the exposed skin as possible to prevent all skin contact. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.



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### RESPIRATORY PROTECTION

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor absorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

### APPROPRIATE ENGINEERING CONTROLS

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CAN_ONsmg	CAN_ONsppm	CAN_ONtmg	CAN_ONtppm	NIOSH Carcinogen	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH TWA (mg/m3)
4,4'- METHYLENEDI-PHENYL DIISOCYANATE		C 0.02		0.005				0.050

Chemical Name	NIOSH TWA (ppm)	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)
4,4'- METHYLENEDI-PHENYL DIISOCYANATE	0.005		1	0.005			0.2 ceiling	0.02 ceiling

Chemical Name	UK_WEL_Note s - United Kingdom_Work place Exposure Standard Notes	UK_WELsmg - United Kingdom_Work place Exposure Limit STEL Short-term exposure limit (15-minutes)	UK_WELsppm - United Kingdom_Work place Exposure Limit STEL Short-term exposure limit (15-minutes) ppm	UK_WELtmg - United Kingdom_Work place Exposure Limits TWA Long-term exposure limit (8-hour TimeWeighted Average) mg/m3	UK_WELtppm - United Kingdom_Work place Exposure Limits TWA Long-term exposure limit (8-hour Time Weighted Average) ppm	ACGIH Carcinogen	ACGIH Notations	ACGIH TLV Basis
4,4'- METHYLENEDI-PHENYL DIISOCYANATE								Resp sens

Chemical Name	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	IOELV Directive	IOELV Notations	IOELV STEL (mg/m3)	IOELV STEL (ppm)
4,4'- METHYLENEDI-PHENYL DIISOCYANATE				0.005				





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Chemical Name	IOELV TWA (mg/m3)	IOELV TWA (ppm)	FR_ED984_Ob servation_Sant e - France, ED 984, Observation des effet sur la santé	FR_ED984_VL CT_or_VLE_15 min_mg_m3 - France, ED 984, Des Valeur limites court terme (VLCT) ou Valeur limites d'exposition (VLE) 15 minute, mg/m3	FR_ED984_VL CT_or_VLE_15 min_ppm - France, ED 984, Des Valeur limites court terme (VLCT) ou Valeur limites d'exposition (VLE) 15 minute, ppm	FR_ED984_VL CT_or_VLE_5m in_mg_m3 - France, ED 984, Des Valeur limites court terme (VLCT) ou Valeur limites d'exposition (VLE) 5 minu	FR_ED984_VL CT_or_VLE_5m in_ppm - France, ED 984, Des Valeur limites court terme (VLCT) ou Valeur limites d'exposition (VLE) 15 minute, ppm	FR_ED984_VL EP - France, ED 984, Des Valeur limites d'exposition professionnelle
4,4'- METHYLENEDI- PHENYL DIISOCYANATE			AR, C2			0,2	0,02	1

Chemical Name	FR_ED984 _VLEP_Date - France, ED 984, Date	FR_ED984_VL EP_mg_m3 - France, ED 984, Des Valeur limites d'exposition professionnelle miligram per cubic meter	FR_ED984_VL EP_ppm - France, ED 984, Des Valeur limites d'exposition professionnelle ppm	FR_TMP - France, Tableaux des maladies professionnelles
4,4'- METHYLENEDI- PHENYL DIISOCYANATE		0,1	0,01	62

### resp - respiratory , sens - sensitization

The information in this Section does not list components that might have relevant FR\_ED984\_VLEP\_mg\_m3 - France, ED 984, Des Valeur limites d'exposition professionnelle miligram per cubic meter, FR\_ED984\_VLEP\_ppm - France, ED 984, Des Valeur limites d'exposition professionnelle ppm, FR\_ED984\_Observation\_Sante - France, ED 984, Observation des effet sur la santé, FR\_ED984\_VLEP - France, ED 984, Des Valeur limites d'exposition professionnelle, ACGIH TWA (ppm), UK\_WELtmg - United Kingdom\_Workplace Exposure Limits TWA Long-term exposure limit (8-hour Time-Weighted Average) mg/m3, UK\_WELtppm - United Kingdom\_Workplace Exposure Limits TWA Long-term exposure limit (8-hour Time-Weighted Average) ppm, ACGIH Carcinogen, ACGIH Notations, ACGIH TLV Basis, VLE Alteracion Efecto a la Salud, VLE Connotacion, VLE PPT (ppm), Kancero-genu kategorija, UK\_WEL\_Health - United Kingdom\_Workplace Exposure Standard Health Effects, NIOSH TWA (ppm), OSHA Tables (Z1, Z2, Z3) , OSHA TWA (mg/m3), OSHA TWA (ppm), NIOSH Carcinogen regulatory values, if they are present at less than 1%. Please contact manufacturer for more information.





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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL AND CHEMICAL PROPERTIES**

DENSITY	D9.60000 LB/GAL
DENSITY VOC	0.00000 LB/GAL
% VOC	0.00000%
SPECIFIC GRAVITY	1.150389
APPEARANCE	LIQUID
ODOR THRESHOLD	AROMATIC
ODOR DESCRIPTION	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
WATER SOLUBILITY	REACTS WITH WATER
FLAMMABILITY	FLASH POINT AT OR ABOVE 200°F/93°C
FLASH POINT SYMBOL	NO DATA AVAILABLE
FLASH POINT	275 °F
VISCOSITY	500-1000 CPS
LOWER EXPLOSION LEVEL	NO DATA AVAILABLE
UPPER EXPLOSION LEVEL	NO DATA AVAILABLE
VAPOR PRESSURE	HEAVIER THAN AIR
VAPOR DENSITY	NO DATA AVAILABLE
FREEZING POINT	NO DATA AVAILABLE
MELTIN POINT	NO DATA AVAILABLE
LOW BOILING POINT	302 °F
HIGH BOILING POINT	NO DATA AVAILABLE
AUTO IGNITION TEMP	NO DATA AVAILABLE
DECOMPOSITION PT	NO DATA AVAILABLE
EVAPORATION RATE	NO DATA AVAILABLE
COEFFICIENT WATER/OIL	NO DATA AVAILABLE



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### SECTION 10. STABILITY AND REACTIVITY

#### STABILITY

Stable under normal storage and handling conditions.

#### CONDITIONS TO AVOID

Avoid moisture.

#### HAZARDOUS REACTIONS/POLYMERIZATION

Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization. Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalies. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

#### INCOMPATIBLE MATERIALS

Water, Amines, Alkalines, Acids, Strong bases, Alcohols, Copper alloys and substances/products that react with isocyanates.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, Hydrogen cyanide, Isocyanates, Isocyanic Acid, other undetermined compounds.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### LIKELY ROUTES OF EXPOSURE

Skin Contact, Eye Contact, Ingestion, Inhalation

#### ACUTE TOXICITY

Harmful if inhaled  
May be harmful if swallowed

#### ASPIRATION HAZARD

No data available



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**CARCINOGENICITY**

No data available

**GERM CELL MUTAGENICITY**

No data available

**REPRODUCTIVE TOXICITY**

No data available

**RESPIRATORY/SKIN SENSITIZATION**

May cause allergy or asthma symptoms or breathing difficulties if inhaled  
May cause an allergic skin reaction

**SERIOUS EYE DAMAGE/IRRITATION**

Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. Prolonged vapor contact may cause conjunctivitis. Any level of contact should not be left untreated.

Causes serious eye irritation

**SKIN CORROSION/IRRITATION**

Isocyanates react with skin protein and moisture and can cause irritation. Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

Causes skin irritation

**SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE**

May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

**SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE**

May cause respiratory irritation



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0000101-68-8 4,4'-METHYLENEDIPHENYL DIISOCYANATE

**LC50 (rat):** 369-490 mg/m<sup>3</sup> (aerosol) (4-hour exposure) (1)

**LC50 (rat):** 178 mg/m<sup>3</sup> (17.4 ppm) (duration of exposure not reported) (2)

**LD50 (oral, rat):** greater than 10,000 mg/kg (1,2)

**LD50 (dermal, rabbit):** greater than 10,000 mg/kg (1)

**LD50 (oral, mouse):** 2,200 mg/kg (3)

## SECTION 12. ECOLOGICAL INFORMATION

### TOXICITY

No data available.

### MOBILITY IN SOIL

No data available.

### BIO-ACCUMULATIVE POTENTIAL

No data available.

### PERSISTENCE AND DEGRADABILITY

No data available.

### OTHER ADVERSE EFFECT

No data available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws. Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance/product into sewer system. Steel drums must be emptied and can be sent to a licensed drum re-conditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.



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**SECTION 14. Transport Information**

	IATA Information	IMDG Information	U.S. DOT Information
UN Number	Not Regulated	Not Regulated	Not Regulated
Proper Shipping Name	N/A	N/A	N/A
Hazard Class	Not Applicable	Not Applicable	Not Applicable
Packaging Group	Not Applicable	Not Applicable	Not Applicable
Hazardous Substance (RQ)			No Data Available
Marine Pollutant		No Data Available	No Data Available
Note / Special Provision	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard			No Data Available

**SECTION 15. REGULATORY INFORMATION**

CAS	Chemical Name	% by Weight	Regulation List
0000101-68-8	4,4'-METHYLENEDIPHENYL DIISOCYANATE	34% - 57%	SARA313, Canada_NPRI,DSL,SARA312,TSCA, EU_EINECS,EU_EC_Inventory
0009082-00-2	POLYGLYCOL 15(POLYMER OF GLYCERINE, ETHYLENEOX	27% - 45%	DSL,SARA312,TSCA
0000108-32-7	CARBONIC ACID, CYCLIC PROPYLENE ESTER	1.20% - 4.8%	DSL,SARA312,TSCA,EU_EINECS,E U_EC_Inventory
0026447-40-5	MDI (MONOMER)	0.18% - 3.5%	DSL,SARA312,TSCA,EU_EINECS,E U_EC_Inventory

The information in this Section does not list components that might have relevant CA\_Prop65 - California Proposition 65, CA\_Prop65\_Type\_Toxicity\_Cancer - CA\_Proposition65\_Type\_Toxicity\_Cancer, Canada\_NPRI, DSL, EU\_EC\_Inventory, EU\_EINECS, MX\_LAAR\_Primer - LISTADO DE ACTIVIDADES ALTAMENTE RIESGOSAS PRIMER, MX\_LAAR\_Segundo - LISTADO DE ACTIVIDADES ALTAMENTE RIESGOSAS Segundo, SARA312, SNAC, TSCA regulatory values, if they are present at less than 1%. Please contact manufacturer for more information.



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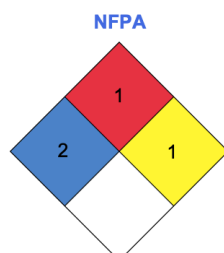
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### SECTION 16. Other Information

#### GLOSSARY

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service (service that maintains the most comprehensive list of chemical sub- stances); Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; MARPOL - International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant"); LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; NIOSH - National Institute for Occupational Safety and Health; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

HMIS	
Health	* 2
FLAMMABILITY	1
Physical Hazard	1
Personal Protection	



( \* ) - Chronic effects

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

#### DISCLAIMER

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## SECTION 1. IDENTIFICATION

<b>PRODUCT ID</b>	DEFENDER AR50 NAT. RESIN
<b>PRODUCT NAME</b>	DEFENDER AR50 NAT. RESIN
<b>REVISION DATE</b>	JULY 29, 2024
<b>VERSION</b>	1.0
<b>MANUFACTURER'S NAME</b>	IXS
<b>ADDRESS</b>	1155 RICHARD PETTY WAY LEBANON, TN 37090
<b>EMERGENCY PHONE</b>	CHEMTREC: 800-424-9300
<b>INFORMATION PHONE NUMBER</b>	(205) 957-0020
<b>FAX</b>	N/A
<b>PRODUCT/RECOMMENDED USES</b>	POLYURETHANE COMPONENT, INDUSTRIAL CHEMICALS
<b>DATE PRINTED</b>	JULY 29, 2024
<b>SUPERSEDES DATE:</b>	N/A

## SECTION 2. HAZARDS IDENTIFICATION

### CLASSIFICATIONS

Acute aquatic toxicity - Category 1  
Chronic aquatic toxicity - Category 1  
Serious Eye Damage - Category 1  
Skin Irritation - Category 2  
Specific Target Organ Toxicity - Repeated Exposure - Category 2

### PICTOGRAMS



### SIGNAL WORD

Danger

### HAZARD STATEMENTS - HEALTH

Causes serious eye damage  
Causes skin irritation  
May cause damage to organs through prolonged or repeated exposure.

### HAZARD STATEMENTS - ENVIRONMENTAL

Very toxic to aquatic life with long lasting effects





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#### **PRECAUTIONARY STATEMENTS - GENERAL**

If medical advice is needed, have product container or label at hand.  
Keep out of reach of children.  
Read label before use

#### **PRECAUTIONARY STATEMENTS - PREVENTION**

Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands thoroughly after handling.  
Do not breathe dust/fume/gas/mist/vapors/spray.

#### **PRECAUTIONARY STATEMENTS - RESPONSE**

Collect spillage.  
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 or doctor.  
IF ON SKIN: Wash with plenty of water.  
Specific treatment (see first-aid on this label).  
If skin irritation occurs: Get medical advice/attention.  
Take off contaminated clothing. And wash it before reuse.  
Get Medical advice/attention if you feel unwell.

#### **PRECAUTIONARY STATEMENTS - STORAGE**

No precautionary statement available.

#### **PRECAUTIONARY STATEMENTS - DISPOSAL**

Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

#### **HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)**

None.

#### **ACUTE TOXICITY OF LESS THAN ONE PERCENT OF THE MIXTURE IS UNKNOWN**



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### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

CAS	CHEMICAL NAME	% BY WEIGHT
0009046-10-0	POLY(PROPYLENEGLYCOL)DIAMINE	48% - 80%
0068479-98-1	DIETHYLTOLUENEDIAMINE	16.5% - 27%
0005285-60-9	BENZENAMINE, 4,4'-METHYLENEBIS[N-(1-METHYLPROPYL)-	4.0% - 16.0%
0025322-69-4	POLYOXYPROPYLENE GLYCOL	0.11% - 2.1%

### SECTION 4. FIRST AID MEASURES

#### INHALATION

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor.

#### EYE CONTACT

Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 30 minutes or until medical aid is available. Immediately call a POISON CENTER/doctor. Take care not to rinse contaminated water into the unaffected eye or onto the face.

#### SKIN CONTACT

Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately call a POISON CENTER/doctor. Rinse skin with lukewarm, gently flowing water/shower for a duration of 30 minutes or until medical aid is available. Wash contaminated clothing before re-use or discard.

#### INGESTION

If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call a POISON CENTER/doctor.

#### MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No data available.



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#### **INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

#### **SECTION 5. FIRE FIGHTING MEASURES**

##### **SUITABLE EXTINGUISHING MEDIA**

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Large Fire : Water spray, fog or alcohol-resistant foam. Use caution when applying carbon dioxide in confined spaces.

##### **UNSUITABLE EXTINGUISHING MEDIA**

Do not use straight stream of water.

##### **SPECIFIC HAZARDS IN CASE OF FIRE**

Fire will produce irritating and toxic gases. Decomposition products may include carbon oxides, nitrous gases, isocyanate vapors.

##### **FIRE-FIGHTING PROCEDURES**

Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Water spray is recommended to cool or protect exposed materials or structures. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

##### **SPECIAL PROTECTIVE ACTIONS**

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighter protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.



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## SECTION 6. ACCIDENTAL RELEASE MEASURES

### EMERGENCY PROCEDURE

Evacuate and isolate hazard area and keep unauthorized personnel away. Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch or walk through spilled material.

### RECOMMENDED EQUIPMENT

Wear liquid tight chemical protective clothing in combination with positive pressure self-contained breathing apparatus (SCBA). Breathing protection is required.

### PERSONAL PRECAUTIONS

DO NOT breathe vapor or mist. Do not get in eyes, on skin or on clothing.

### ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Prevent spilled material and water from clean-up/firefighting from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Ventilate and wash area after clean-up is complete. Absorb liquids in vermiculite, dry sand, earth, or similar inert material and deposit in sealed containers for disposal. Dispose of contaminated materials according to federal, state and local regulations.

## SECTION 7. HANDLING AND STORAGE

### GENERAL

DO NOT breathe vapor or mist.

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

All containers must be properly labelled.

Eyewash stations and showers should be available in areas where this material is used and stored.



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### VENTILATION REQUIREMENTS

Use only with adequate ventilation to control air contaminants to their exposure limits. Report ventilation failures immediately.

### STORAGE ROOM REQUIREMENTS

ge Room Requirements Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Keep containers securely sealed when not in use. Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2). Empty containers retain residue and may be dangerous. Formation of CO<sub>2</sub> and build-up of pressure possible. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage temperature: 60 - 80°F. Protect against moisture.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### EYE PROTECTION

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

### SKIN PROTECTION

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Cover as much of the exposed skin as possible to prevent all skin contact. Use of an apron and over- boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

### RESPIRATORY PROTECTION

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor absorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.



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### APPROPRIATE ENGINEERING CONTROLS

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value

Chemical Name	CAN_ONsmg	CAN_ONsppm	CAN_ONtmg	CAN_ONtppm	NIOSH Carcinogen	NIOSH STEL (mg/m3)	NIOSH STEL (ppm)	NIOSH TWA (mg/m3)
No applicable chemical								

Chemical Name	NIOSH TWA (ppm)	OSHA Skin designation	OSHA Tables (Z1, Z2, Z3)	OSHA Carcinogen	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)
No applicable chemical								

Chemical Name	UK_WEL_Note s - United Kingdom_Work place Exposure Standard Notes	UK_WELsmg - United Kingdom_Work place Exposure Limit STEL Short-term exposure limit (15-minutes)	UK_WELsppm - United Kingdom_Work place Exposure Limit STEL Short-term exposure limit (15-minutes) ppm	UK_WELtmg - United Kingdom_Work place Exposure Limits TWA Long-term exposure limit (8-hour TimeWeighted Average) mg/m3	UK_WELtppm - United Kingdom_Work place Exposure Limits TWA Long-term exposure limit (8-hour Time Weighted Average) ppm	ACGIH Carcinogen	ACGIH Notations	ACGIH TLV Basis
No applicable chemical								

Chemical Name	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	IOELV Directive	IOELV Notations	IOELV STEL (mg/m3)	IOELV STEL (ppm)
No applicable chemical								

Chemical Name	IOELV TWA (mg/m3)	IOELV TWA (ppm)	FR_ED984_Observation_Sant e - France, ED 984, Observation des effet sur la sant e	FR_ED984_VL CT_or_VLE_15 min_mg_m3 - France, ED 984, Des Valeure limites court terme (VLCT) ou Valeure limites d'exposition (VLE) 15 minute, mg/m3	FR_ED984_VL CT_or_VLE_15 min_ppm - France, ED 984, Des Valeure limites court terme (VLCT) ou Valeure limites d'exposition (VLE) 15 minute, ppm	FR_ED984_VL CT_or_VLE_5m in_mg_m3 - France, ED 984, Des Valeure limites court terme (VLCT) ou Valeure limites d'exposition (VLE) 5 minu	FR_ED984_VL CT_or_VLE_5m in_ppm - France, ED 984, Des Valeure limites court terme (VLCT) ou Valeure limites d'exposition (VLE) 15 minute, ppm	FR_ED984_VL EP - France, ED 984, Des Valeure limites d'exposition professionnelle
No applicable chemical								



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Chemical Name	FR_ED984_VLEP_Date - France, ED 984, Date	FR_ED984_VL EP_mg_m3 - France, ED 984, Des Valeure limites d'exposition professionnelle miligram per cubic meter	FR_ED984_VL EP_ppm - France, ED 984, Des Valeure limites d'exposition professionnelle ppm	FR_TMP - France, Tableaux des maladies professionnelles
No applicable chemical				

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### PHYSICAL AND CHEMICAL PROPERTIES

DENSITY	8.30000 LB/GAL
DENSITY VOC	0.00000 LB/GAL
% VOC	0.00000%
SPECIFIC GRAVITY	0.99460
APPEARANCE	LIQUID
ODOR THRESHOLD	NO DATA AVAILABLE
ODOR DESCRIPTION	MILD AMMONIA-LIKE
PH	NO DATA AVAILABLE
WATER SOLUBILITY	NO DATA AVAILABLE
FLAMMABILITY	FLASH POINT AT OR ABOVE 200°F/93°C
FLASH POINT SYMBOL	NO DATA AVAILABLE
FLASH POINT	212 °F
VISCOSITY	450 CP
LOWER EXPLOSION LEVEL	NO DATA AVAILABLE
UPPER EXPLOSION LEVEL	NO DATA AVAILABLE
VAPOR PRESSURE	NO DATA AVAILABLE
VAPOR DENSITY	HEAVIER THAN AIR
FREEZING POINT	NO DATA AVAILABLE
MELTIN POINT	NO DATA AVAILABLE
LOW BOILING POINT	586 °F
HIGH BOILING POINT	NO DATA AVAILABLE
AUTO IGNITION TEMP	NO DATA AVAILABLE
DECOMPOSITION PT	NO DATA AVAILABLE
EVAPORATION RATE	SLOWER THAN ETHER
COEFFICIENT WATER/OIL	NO DATA AVAILABLE





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## SECTION 10. STABILITY AND REACTIVITY

### STABILITY

Stable under normal storage and handling conditions.

### CONDITIONS TO AVOID

Avoid moisture. Temperature: < 0 degrees Celsius

### HAZARDOUS REACTIONS/POLYMERIZATION

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

### INCOMPATIBLE MATERIALS

Water, Amines, Alkalines, Acids, Strong bases, Alcohols, Copper alloys and substances/products that react with isocyanates. Strong oxidising agents

### HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, Hydrogen cyanide, Isocyanates, Isocyanic Acid, other undetermined compounds.

## SECTION 11. TOXICOLOGICAL INFORMATION

### LIKELY ROUTES OF EXPOSURE

Skin Contact, Eye Contact, Ingestion, Inhalation

### ACUTE TOXICITY

If ingested: In humans, irritation or chemical burns of the mouth, pharynx, esophagus and stomach can develop following ingestion, and injury may be severe and cause death. Repeated and prolonged exposure at low levels may result in adverse skin and eye effects, liver and kidney disorders. May be harmful in contact with skin. Harmful if swallowed.

No data available.

### ASPIRATION HAZARD

No data available



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#### **CARCINOGENICITY**

No data available

#### **GERM CELL MUTAGENICITY**

No data available

#### **REPRODUCTIVE TOXICITY**

No data available

#### **RESPIRATORY/SKIN SENSITIZATION**

Inhalation: Severe overexposure may induce respiratory sensitization with asthma like symptoms. These symptoms may be immediate or delayed up to several hours after exposure. Chronic exposures may result in permanent decreases in lung function. Skin sensitization may develop after repeated and/or prolonged contact. No data available.

#### **SERIOUS EYE DAMAGE/IRRITATION**

Vapors can irritate the eyes. Chemical burns may result due to overexposure. Effects of exposure may be delayed.

Causes serious eye damage

#### **SKIN CORROSION/IRRITATION**

Product may be absorbed through skin and cause nausea, headache, and general discomfort.

Causes skin irritation

#### **SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE**

May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

#### **SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE**

No data available.



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## SECTION 12. ECOLOGICAL INFORMATION

### TOXICITY

Very toxic to aquatic life

Very toxic to aquatic life with long lasting effects

### MOBILITY IN SOIL

No data available.

### BIO-ACCUMULATIVE POTENTIAL

No data available.

### PERSISTENCE AND DEGRADABILITY

No data available.

### OTHER ADVERSE EFFECT

No data available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Steel drums must be emptied and can be sent to a licensed drum re-conditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes



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**SECTION 14. Transport Information**

	IATA Information	IMDG Information	U.S. DOT Information
UN Number	UN3082	UN3082	Not Regulated
Proper Shipping Name	Environmentally hazardous substances, liquid, n.o.s. (DIETHYLTOLUENED IAMINE)	Environmentally hazardous substances, liquid, n.o.s. (DIETHYLTOLUENED IAMINE)	Not Applicable
Hazard Class	9	9	Not Applicable
Packaging Group	III	III	Not Applicable
Hazardous Substance (RQ)			No Data Available
Marine Pollutant		No Data Available	No Data Available
Note / Special Provision	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard			No Data Available

**SECTION 15. REGULATORY INFORMATION**

CAS	Chemical Name	% by Weight	Regulation List
0009046-10-0	POLY(PROPYLENEGLYCOL)DIAMINE	48% - 80%	DSL,SARA312,TSCA
0068479-98-1	DIETHYLTOLUENEDIAMINE	16.5% - 27%	DSL,SARA312,TSCA,EU_EINECS,EU_EC_Inventory

The information in this Section does not list components that might have relevant DSL, EU\_EC\_Inventory, EU\_EINECS, SARA312, TSCA regulatory values, if they are present at less than 1%. Please contact manufacturer for more information.



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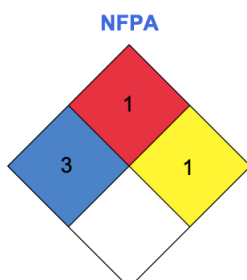
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## SECTION 16. Other Information

### GLOSSARY

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service (service that maintains the most comprehensive list of chemical sub- stances); Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; MARPOL - International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant"); LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; NIOSH - National Institute for Occupational Safety and Health; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

HMIS	
Health	1 3
FLAMMABILITY	1
Physical Hazard	1
Personal Protection	



( \* ) - Chronic effects

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

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