

SAFETY DATA SHEET

Hardener 92245

Section 1. Identification

GHS product identifier : Hardener 92245

SDS code : A45386

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Industrial use

Uses advised against

Consumer use

Manufacturer : Akzo Nobel Coatings, Inc.

1 East Water Street Waukegan, IL 60085

USA

Tel. 1 847 623 4200

Email: customer.service@akzonobel.com

Akzo Nobel Coatings Ltd. 110 Woodbine Downs Blvd. Unit #4 Etobicoke, Ontario

Canada M9W 5S6 +1 (800) 618-1010

Importer : Cía. Mexicana de Pinturas International

S.A. de C.V., Carretera Anillo Periférico,

No Ext 205, No Interior A, Colonia HDA S JOSE, Garcia, Garcia, CP 66000, Nuevo

Leon.

RFC: ANA9510267C4

Emergency telephone number (with hours of operation) : CHEMTREC +1 (800) 424-9300 (Inside the US)

CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

Section 2. Hazards identification

OSHA/HCS status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

: ►CAMMABLE LIQUIDS - Category 2
ACUTE TOXICITY (oral) - Category 4
SKIN CORROSION - Category 1C
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2

TOXIC TO REPRODUCTION (Unborn child) - Category 2

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -

Category 3

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

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Section 2. Hazards identification

GHS label elements

Hazard pictograms







Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapor.

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction. Suspected of damaging the unborn child.

Suspected of causing cancer. May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear protective clothing. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

Response

: Set medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. 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 physician.

Storage

Store locked up.

Disposal

Dispose of contents and container in accordance with all local, regional, national and international regulations.

: None known.

Hazards not otherwise classified

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
toluene	≥25 - ≤50	108-88-3
benzyl alcohol	≤14	100-51-6
N-(3-(trimethoxysilyl)propyl)ethylenediamine	≤9.8	1760-24-3
Solvent naphtha (petroleum), light arom.	≤10	64742-95-6
m-phenylenebis(methylamine)	<5	1477-55-0
2,4,6-tris(dimethylaminomethyl)phenol	≤3	90-72-2
1,2,4-trimethylbenzene	≤3	95-63-6
Formaldehyde, polymer with benzenamine, hydrogenated	≤3	135108-88-2
cumene	≤0.3	98-82-8

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

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Section 3. Composition/information on ingredients

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

<u>Description of necessary first aid measures</u>

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.

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. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. 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

Eve contact : Causes serious eye damage.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or

dizziness.

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

: Harmful if swallowed. Can cause central nervous system (CNS) depression. Ingestion

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

pain watering redness

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Section 4. First aid measures

Inhalation : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

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 dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing

media

: Do not use water jet.

Specific hazards arising from the chemical

: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the

risk of a subsequent explosion.

Hazardous thermal decomposition products

: Decomposition products may include the following materials:

carbon dioxide carbon monoxide nitrogen oxides metal oxide/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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

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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. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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 nonemergency 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. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. 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. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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.

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Section 7. Handling and storage

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Moluene	NIOSH REL (United States, 10/2016). STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 10 hours. TWA: 100 ppm 10 hours. OSHA PEL Z2 (United States, 2/2013). AMP: 500 ppm 10 minutes. CEIL: 300 ppm TWA: 200 ppm 8 hours. ACGIH TLV (United States, 3/2019). TWA: 20 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). Notes: See Table Z-2. STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 375 mg/m³ 8 hours. TWA: 100 ppm 8 hours.
benzyl alcohol	AIHA WEEL (United States, 7/2018). TWA: 10 ppm 8 hours.
N-(3-(trimethoxysilyl)propyl)ethylenediamine Solvent naphtha (petroleum), light arom. m-phenylenebis(methylamine)	None. None. ACGIH TLV (United States, 3/2019). Absorbed through skin. C: 0.018 ppm OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. CEIL: 0.1 mg/m³ NIOSH REL (United States, 10/2016). Absorbed through skin. CEIL: 0.1 mg/m³
2,4,6-tris(dimethylaminomethyl)phenol 1,2,4-trimethylbenzene	None. ACGIH TLV (United States, 3/2019). TWA: 123 mg/m³ 8 hours. TWA: 25 ppm 8 hours. NIOSH REL (United States, 10/2016). TWA: 125 mg/m³ 10 hours. TWA: 25 ppm 10 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 125 mg/m³ 8 hours. TWA: 25 ppm 8 hours.
Formaldehyde, polymer with benzenamine, hydrogenated cumene	None. ACGIH TLV (United States, 3/2019). Notes: 1999 Adoption. TWA: 50 ppm 8 hours. NIOSH REL (United States, 10/2016).

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Section 8. Exposure controls/personal protection

Absorbed through skin. TWA: 245 mg/m³ 10 hours.

TWA: 50 ppm 10 hours.

OSHA PEL (United States, 5/2018).

Absorbed through skin. TWA: 245 mg/m³ 8 hours. TWA: 50 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).

Absorbed through skin. TWA: 245 mg/m³ 8 hours. TWA: 50 ppm 8 hours.

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. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

Skin 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.

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. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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.

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.

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Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Typical.

Odor threshold : Not available.

pH : Not available.

Melting/freezing point : Not available.

Boiling point : 110°C (230°F)

boiling range : Not available.

Flash point : Closed cup: 9°C (48.2°F)

Evaporation rate : Not available.
Flammability (solid, gas) : Not available.
Upper/lower flammability or explosive limits

Upper: : Not determined.Lower: : Not determined.

Vapor pressure: Not available.Vapor density: Not available.

Relative density : 0.948

Density : 7.91 lbs/gal 0.948 g/cm³

Solubility : Not available.

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Viscosity : Kinematic (room temperature): 0.42 cm²/s (42 cSt)

Regulatory VOC : 5.2 lbs/gal 621 g/l minus water and exempt solvents

VOC Actual : 5.2 lbs/gal 621 g/l

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 : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld,

braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials: Reactive or incompatible with the following materials:

oxidizing materials

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Section 10. Stability and reactivity

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

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benzyl alcohol LC50 LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD	Inhalation Vapor Dermal Intra-arterial Intraperitoneal Intraperitoneal Intravenous Intravenous Oral Oral Oral Oral Oral Oral	Rat Rabbit Rat Mouse Rat Mouse Rat Guinea pig Guinea pig Mouse Mouse Mouse	1000 ppm 2000 mg/kg 441 mg/kg 650 mg/kg 400 mg/kg 324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg	8 hours
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Dermal Intra-arterial Intraperitoneal Intraperitoneal Intravenous Intravenous Oral Oral Oral Oral Oral Oral	Rabbit Rat Mouse Rat Mouse Rat Guinea pig Guinea pig Mouse Mouse Mouse	2000 mg/kg 441 mg/kg 650 mg/kg 400 mg/kg 324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg	- - - - - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Intra-arterial Intraperitoneal Intraperitoneal Intravenous Intravenous Oral Oral Oral Oral Oral Oral	Rat Mouse Rat Mouse Rat Guinea pig Guinea pig Mouse Mouse Mouse	441 mg/kg 650 mg/kg 400 mg/kg 324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg	- - - - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Intraperitoneal Intraperitoneal Intravenous Intravenous Oral Oral Oral Oral Oral Oral	Mouse Rat Mouse Rat Guinea pig Guinea pig Mouse Mouse Mouse	650 mg/kg 400 mg/kg 324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg 1360 mg/kg	- - - - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Intraperitoneal Intravenous Intravenous Oral Oral Oral Oral Oral Oral Oral	Rat Mouse Rat Guinea pig Guinea pig Mouse Mouse	400 mg/kg 324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg 1360 mg/kg	- - - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Intravenous Intravenous Oral Oral Oral Oral Oral Oral Oral	Mouse Rat Guinea pig Guinea pig Mouse Mouse	324 mg/kg 53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg 1360 mg/kg	- - - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Intravenous Oral Oral Oral Oral Oral	Guinea pig Guinea pig Mouse Mouse	53 mg/kg 2500 mg/kg 2500 mg/kg 1360 mg/kg 1360 mg/kg	- - - -
N-(3-(trimethoxysilyl)propyl) ethylenediamine	Oral Oral Oral Oral Oral	Guinea pig Guinea pig Mouse Mouse	2500 mg/kg 2500 mg/kg 1360 mg/kg 1360 mg/kg	- - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Oral Oral Oral Oral	Guinea pig Mouse Mouse	2500 mg/kg 1360 mg/kg 1360 mg/kg	- - -
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Oral Oral Oral	Mouse Mouse	1360 mg/kg 1360 mg/kg	-
LD50 LD50 LD50 LD50 LD50 LD50 LD50 LD50	Oral Oral	Mouse	1360 mg/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine	Oral			
N-(3-(trimethoxysilyl)propyl) ethylenediamine		Rabbit	1040 mg/kg	_
N-(3-(trimethoxysilyl)propyl) ethylenediamine	Oral	Rabbit	1040 mg/kg	_
N-(3-(trimethoxysilyl)propyl) ethylenediamine		Rat	1.5 mL/kg	-
N-(3-(trimethoxysilyl)propyl) ethylenediamine LD50		Rat	1230 mg/kg	_
N-(3-(trimethoxysilyl)propyl) LD50 ethylenediamine LD50 LD50		Rat	1230 mg/kg	-
N-(3-(trimethoxysilyl)propyl) LD50 ethylenediamine LD50 LD50		Rat	1660 mg/kg	_
ethylenediamine LD50 LD50	Intravenous	Mouse	180 mg/kg	_
LD50 LD50				
LD50	Oral	Rat	2413 mg/kg	-
		Rat	7460 uL/kg	-
I CONCILLIADILLIA (DELICIEUII). TEDOU	Oral	Rat	8400 mg/kg	-
light arom.				
	Inhalation Gas.	Rat	700 ppm	1 hours
(methylamine)			''	
	Dermal	Rabbit	2 g/kg	_
LD50		Rat	930 mg/kg	-
2,4,6-tris LD50	Dermal	Rat	1280 mg/kg	-
(dimethylaminomethyl)phenol				
LD50	Oral	Rat	1200 mg/kg	-
LD50	Oral	Rat	1673 mg/kg	-
LD50		Rat	2169 mg/kg	-
	Inhalation Vapor	Rat	18000 mg/m³	4 hours
LD50		Mouse	6900 mg/kg	-
LD50		Rat	5 g/kg	-
	Oral	Mouse	15300 mg/m³	2 hours
	Oral Inhalation Vapor			7 hours
		Mouse	10 g/m³	1 110ui 5

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Section 11. Toxicological information

LC50 Inhalation Vapor	Mouse	10000 mg/m ³	7 hours
LC50 Inhalation Vapor	Rat	39000 mg/m ³	4 hours
LD50 Dermal	Rabbit	12300 uL/kg	-
LD50 Oral	Mouse	12750 mg/kg	-
LD50 Oral	Rat	2.9 g/kg	-
LD50 Oral	Rat	1400 mg/kg	-
	LC50 Inhalation Vapor LD50 Dermal LD50 Oral LD50 Oral	LC50 Inhalation Vapor LD50 Dermal LD50 Oral LD50 Oral Rat Rabbit Mouse Rat	LC50 Inhalation Vapor LD50 Dermal LD50 Oral Rat Rabbit 12300 uL/kg Mouse 12750 mg/kg Rat LD50 Oral Rat 2.9 g/kg

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes	-
•				100 mg	
	Eyes - Mild irritant	Rabbit	-	870 ug	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2	-
				mg	
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20	-
				mg	
	Skin - Moderate irritant	Rabbit	-	500 mg	-
benzyl alcohol	Skin - Moderate irritant	Rabbit	-	24 hours 100	-
•				mg	
N-(3-(trimethoxysilyl)propyl)	Eyes - Severe irritant	Rabbit	-	15 mg	-
ethylenediamine					
	Skin - Mild irritant	Rabbit	-	500 mg	-
Solvent naphtha (petroleum),	Eyes - Mild irritant	Rabbit	-	24 hours 100	-
light arom.				UI	
m-phenylenebis	Eyes - Severe irritant	Rabbit	-	24 hours 50	-
(methylamine)				ug	
	Skin - Severe irritant	Rabbit	-	24 hours 750	-
				ug	
2,4,6-tris	Eyes - Severe irritant	Rabbit	-	24 hours 50	-
(dimethylaminomethyl)phenol				ug	
	Skin - Mild irritant	Rat	-	0.025 MI	-
	Skin - Severe irritant	Rat	-	0.25 MI	-
	Skin - Severe irritant	Rabbit	-	24 hours 2	-
				mg	
	Skin - Severe irritant	Rabbit	-	24 hours 500	-
		B 11.1		UI	
cumene	Eyes - Mild irritant	Rabbit	-	24 hours 500	-
	From NAME 12 12	D-1-7		mg	
	Eyes - Mild irritant	Rabbit	-	86 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 10	-
	Olive Medanatainsi (D-b-b-t		mg	
	Skin - Moderate irritant	Rabbit	-	24 hours 100	-
				mg	

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
cumene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Not available.

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Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
toluene	Category 3	Not applicable.	Narcotic effects
Solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
cumene	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
	Category 2 Category 2		Not determined Not determined

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

: Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : ☑an cause central nervous system (CNS) depression. May cause drowsiness or

dizziness

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

Ingestion: Harmful if swallowed. Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact: Adverse symptoms may include the following:

pain watering redness

Inhalation : Adverse symptoms may include the following:

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations

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Section 11. Toxicological information

Skin contact: Adverse symptoms may include the following:

pain or irritation

redness

blistering may occur reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion: Adverse symptoms may include the following:

stomach pains reduced fetal weight increase in fetal deaths skeletal malformations

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

Short term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate

: Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

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 : Suspected of causing cancer. Risk of cancer depends on duration and level of

exposure.

Mutagenicity: No known significant effects or critical hazards.Teratogenicity: Suspected of damaging the unborn child.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

Route	ATE value
oral Inhalation (vapors)	1218.3 mg/kg 423.6 mg/l
Inhalation (dusts and mists)	6.203 mg/l

Section 12. Ecological information

Toxicity

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Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
toluene	Acute EC50 12500 μg/l Fresh water	Algae - Pseudokirchneriella	72 hours
	Acute EC50 16500 μg/l Fresh water	subcapitata Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 11600 μg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6.88 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 6.56 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 19600 μg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute EC50 6000 μg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute EC50 6780 μg/l Fresh water	Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 15500 μg/l Marine water	Crustaceans - Palaemonetes pugio	48 hours
	Acute LC50 56.3 ppm Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 86.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 5500 μg/l Fresh water Acute LC50 6410 μg/l Marine water	Fish - Oncorhynchus kisutch - Fry Fish - Oncorhynchus gorbuscha - Fry	96 hours 96 hours
	Acute LC50 5800 μg/l Fresh water Acute LC50 6780 μg/l Fresh water	Fish - Oncorhynchus mykiss Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 96 hours
	Chronic NOEC 2 mg/l Fresh water Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna Daphnia - Daphnia magna	21 days 21 days
benzyl alcohol	Acute LC50 10000 μg/l Fresh water Acute LC50 460000 μg/l Fresh water	Fish - Lepomis macrochirus Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 96 hours
1,2,4-trimethylbenzene	Acute LC50 15000 μg/l Marine water Acute LC50 17000 μg/l Marine water	Fish - Menidia beryllina Crustaceans - Cancer magister - Zoea	96 hours 48 hours
	Acute LC50 4910 μg/l Marine water	Crustaceans - Elasmopus pectenicrus - Adult	48 hours
	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 22.4 mg/l Fresh water	Fish - Tilapia zillii	96 hours
cumene	Acute EC50 2600 μg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 7.4 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 7.5 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute EC50 10.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute EC50 10.6 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 7.4 mg/l Marine water	Crustaceans - Artemia sp Nauplii	48 hours
	Acute LC50 8 mg/l Marine water	Crustaceans - Artemia sp	48 hours

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		Nauplii	
	Acute LC50 20.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 20.3 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 6320 ug/l Fresh water	Fish - Pimephales promelas	96 hours

Acute LC50 5100 µg/l Fresh water

Acute LC50 2700 µg/l Fresh water

Fish - Poecilia reticulata

Fish - Oncorhynchus mykiss

96 hours

96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
toluene	2.73	90	low
benzyl alcohol	0.87	-	low
Solvent naphtha (petroleum), light arom.	-	10 to 2500	high
m-phenylenebis(methylamine)	0.18	2.69	low
2,4,6-tris (dimethylaminomethyl)phenol	0.219	-	low
1,2,4-trimethylbenzene	3.63	243	low
Formaldehyde, polymer with benzenamine, hydrogenated	-	209 to 219	low
cumene	3.55	35.48	low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

The information provided in section 14 is based on a bulk package shipment via ground transport in North America. All shippers are responsible for ensuring the proper transportation classification and package/container requirements are followed for the relevant mode of transport.

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Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN3469	UN3469	UN3469	UN3469	UN3469
UN proper shipping name	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE	PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE
Transport hazard class(es)	3 (8) **Control of the control of t	3 (8)	3 (8)	3 (8)	3 (8)
Packing group	II	II	II	II	II
Environmental hazards	No.	Yes.	Yes. The environmentally hazardous substance mark is not required.	Marine Pollutant (s): Formaldehyde, oligomeric reaction products with phenol and mphenylenebis (methylamine), N-(3-(trimethoxysilyl) propyl) ethylenediamine	Yes. The environmentally hazardous substance mark is not required.

Additional information

IATA

DOT Classification : Reportable quantity 2203.4 lbs / 1000.4 kg [278.76 gal / 1055.2 L]. Package sizes

shipped in quantities less than the product reportable quantity are not subject to the RQ

(reportable quantity) transportation requirements.

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous

Goods Regulations: 2.18-2.19 (Class 3), 2.40-2.42 (Class 8), 2.7 (Marine pollutant

The marine pollutant mark is not required when transported by road or rail.

IMDG : Emergency schedules F-E, S-C

The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

: The environmentally hazardous substance mark may appear if required by other

transportation regulations.

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.

Transport in bulk according : Not available. to Annex II of MARPOL and the IBC Code

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Section 15. Regulatory information

U.S. Federal regulations

: TSCA 5(a)2 final significant new use rules: No products found.

TSCA 5(e) substance consent order: No products found. TSCA 8(a) CDR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

Clean Water Act (CWA) 307: toluene Clean Water Act (CWA) 311: toluene; xylene

Clean Air Act Section 112

(b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602

Class I Substances

: Not listed

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals

(Precursor Chemicals)

: Not listed

DEA List II Chemicals

: Listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

			SARA 302 TPQ		SARA 304 RQ	
Name	%	EHS	(lbs)	(gallons)	(lbs)	(gallons)
No products were found.						

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 2

> ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION - Category 1C SERIOUS EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2

TOXIC TO REPRODUCTION (Unborn child) - Category 2

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -

Category 3

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Composition/information on ingredients

Name	%	Classification
l oluene	≥25 - ≤50	FLAMMABLE LIQUIDS - Category 2
		SKIN IRRITATION - Category 2
		TOXIC TO REPRODUCTION (Unborn child) - Category 2
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Narcotic effects) - Category 3
		SPECIFIC TARGET ORGAN TOXICITY (REPEATED
		EXPOSURE) - Category 2
		ASPIRATION HAZARD - Category 1
benzyl alcohol	≤14	ACUTE TOXICITY (oral) - Category 4
		ACUTE TOXICITY (inhalation) - Category 4
		EYE IRRITATION - Category 2A
N-(3-(trimethoxysilyl)propyl)	≤9.8	ACUTE TOXICITY (inhalation) - Category 4
ethylenediamine		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1
Solvent naphtha	≤10	FLAMMABLE LIQUIDS - Category 3
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Respiratory tract irritation) - Category 3
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)

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		(Narcotic effects) - Category 3
		ASPIRATION HAZARD - Category 1
m-phenylenebis(methylamine)	<5	ACUTE TOXICITY (oral) - Category 4
		ACUTE TOXICITY (inhalation) - Category 4
		SKIN CORROSION - Category 1B
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1B
2,4,6-tris(dimethylaminomethyl)	≤3	ACUTE TOXICITY (oral) - Category 4
phenol		SKIN CORROSION - Category 1C
		SERIOUS EYE DAMAGE - Category 1
1,2,4-trimethylbenzene	≤3	FLAMMABLE LIQUIDS - Category 3
		ACUTE TOXICITY (inhalation) - Category 4
		SKIN IRRITATION - Category 2
		EYE IRRITATION - Category 2A
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
	_	(Respiratory tract irritation) - Category 3
Formaldehyde, polymer with	≤3	ACUTE TOXICITY (oral) - Category 4
benzenamine, hydrogenated		SKIN CORROSION - Category 1C
		SERIOUS EYE DAMAGE - Category 1
		SKIN SENSITIZATION - Category 1
		SPECIFIC TARGET ORGAN TOXICITY (REPEATED
		EXPOSURE) - Category 2
		SPECIFIC TARGET ORGAN TOXICITY (REPEATED
	10.0	EXPOSURE) (oral) - Category 2
cumene	≤0.3	FLAMMABLE LIQUIDS - Category 3
		CARCINOGENICITY - Category 2
		SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
		(Respiratory tract irritation) - Category 3
		ASPIRATION HAZARD - Category 1

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements			≥25 - ≤50 ≤3
Supplier notification		108-88-3 95-63-6	≥25 - ≤50 ≤3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: TOLUENE; METHYLBENZENE; BENZYL

ALCOHOL; M-XYLENE-ALPHA, ALPHA'-DIAMINE; MXDA; PSEUDOCUMENE

New York : The following components are listed: Toluene; Cumene; Benzene, 1-methylethyl-

New Jersey : The following components are listed: TOLUENE; BENZENE, METHYL-; m-XYLENE

alpha, alpha'-DIAMINE; 1,3-BENZENEDIMETHANAMINE; PSEUDOCUMENE; 1,2,

4-TRIMETHYL BENZENE; CUMENE; BENZENE, (1-METHYLETHYL)-

Pennsylvania : The following components are listed: BENZENE, METHYL-; BENZENEMETHANOL; 1,

3-BENZENED, IMETHANAMINE; PSEUDOCUMENE; BENZENE, (1-METHYLETHYL)-

California Prop. 65

MARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
toluene	-	Yes.
cumene	-	-
methanol	-	Yes.

Inventory list

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Section 15. Regulatory information

Australia : All components are listed or exempted.

Canada : All components are listed or exempted.

China : All components are listed or exempted.

Europe : All components are listed or exempted.

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

Japan inventory (ISHL): At least one component is not listed.

Malaysia : At least one component is not listed. **New Zealand** : All components are listed or exempted. **Philippines** : All components are listed or exempted. Republic of Korea : All components are listed or exempted. **Taiwan** : All components are listed or exempted. **Thailand** : At least one component is not listed. Turkey : At least one component is not listed. **Viet Nam** : At least one component is not listed.

Section 16. Other information

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



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.

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
ACUTE TOXICITY (oral) - Category 4	Calculation method
SKIN CORROSION - Category 1C	Calculation method
SERIOUS EYE DAMAGE - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
TOXIC TO REPRODUCTION (Unborn child) - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) -	Calculation method
Category 3	
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

<u>History</u>

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Hardener 92245

Section 16. Other information

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

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