

Franklin International

Material Safety Data Sheet

Product name : Titebond 231 Acrylic Wood Flooring Adhesive

1. Product and company identification

CAS # : mixture
Address : Franklin International
2020 Bruck Street
Columbus OH 43207
Contact person : Franklin Technical Services
Telephone : (800) 877-4583
Emergency phone: : Franklin Security
(614) 445-1300
Reference number : 3639
Product code : 3919
Date of revision : 3/2/2011.
Print date : 3/2/2011.
Chemtrec (24 Hour) : (800) 424 - 9300
Chemtrec International : (703) 527 - 3887
Chemical family : Adhesive.
Product use : adhesive
Product type : solvent/polymer based

2. Hazards identification

Physical state : Liquid. [Paste.]
Odor : Characteristic.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!
CAUSES RESPIRATORY TRACT AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS.
May be harmful if absorbed through skin or if swallowed. Irritating to respiratory system and skin. Moderately irritating to eyes. Defatting to the skin. Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Contains material which may cause developmental abnormalities. Avoid exposure during pregnancy. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Contains xylene emulsion.
Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects
Inhalation : Irritating to respiratory system. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.
Ingestion : Harmful if swallowed.
Skin : Harmful in contact with skin. Irritating to skin.
Eyes : Moderately irritating to eyes. This product may irritate eyes upon contact.

2. Hazards identification

Potential chronic health effects

- Chronic effects** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : Contains material which may cause developmental abnormalities.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : May cause damage to the following organs: skin, eyes.
 Contains material which may cause damage to the following organs: blood, kidneys, lungs, liver, gastrointestinal tract, upper respiratory tract, central nervous system (CNS), eye, lens or cornea.
 Contains material which does not cause damage to the following organs: digestive system.

Over-exposure signs/symptoms

- Inhalation** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea. Adverse symptoms may include the following:
 respiratory tract irritation
 coughing
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
 irritation
 redness
 dryness
 cracking
- Eyes** : Adverse symptoms may include the following:
 irritation
 watering
 redness
- Medical conditions aggravated by over-exposure** : None known.

See toxicological information (section 11)

3. Composition/information on ingredients

United States

<u>Name</u>	<u>CAS number</u>	<u>%</u>
xylene	1330-20-7	1 - 5

Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
xylene	1330-20-7	1 - 5
ethylene glycol	107-21-1	0.1 - 0.5

Mexico

<u>Name</u>	<u>CAS number</u>	<u>UN number</u>	<u>%</u>	<u>IDLH</u>	<u>Classification</u>			
					<u>H</u>	<u>F</u>	<u>R</u>	<u>Special</u>
xylene	1330-20-7	UN1993	1 - 5	900 ppm	1	3	0	

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.

4 . First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- 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.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

- Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- 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).
- Small spill** : Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). 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. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Storage** : Store in accordance with local regulations. 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. 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.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
xylene	<p>ACGIH TLV (United States, 2/2010). TWA: 100 ppm 8 hour(s). TWA: 434 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 651 mg/m³ 15 minute(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 655 mg/m³ 15 minute(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 100 ppm 8 hour(s). TWA: 435 mg/m³ 8 hour(s).</p>

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
xylene	US ACGIH 2/2010	100	434	-	150	651	-	-	-	-	
	AB 4/2009	100	434	-	150	651	-	-	-	-	
	BC 9/2010	100	-	-	150	-	-	-	-	-	
	ON 7/2010	100	434	-	150	651	-	-	-	-	
	QC 6/2008	100	434	-	150	651	-	-	-	-	
ethylene glycol	US ACGIH 2/2010	-	-	-	-	-	-	-	100	-	[a]
	AB 4/2009	-	-	-	-	-	-	-	100	-	[3] [b]
	BC 9/2010	-	-	-	-	-	-	-	100	-	[a]
	-	-	-	-	-	-	-	50	-	-	[c]
	-	10	-	-	-	20	-	-	-	-	[d]
	ON 7/2010	-	-	-	-	-	-	-	100	-	[b]
	QC 6/2008	-	-	-	50	127	-	-	-	-	[e]

[3]Skin sensitization

Form: [a]Aerosol [b]aerosol [c]Vapour [d]Particulate [e]vapour and mist

Mexico

Ingredient	Exposure limits

8 . Exposure controls/personal protection

xylene	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 100 ppm 8 hour(s). LMPE-PPT: 435 mg/m ³ 8 hour(s). LMPE-CT: 655 mg/m ³ 15 minute(s). LMPE-CT: 150 ppm 15 minute(s).
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Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : 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.

Eyes : 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 or dusts.

Skin : 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.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9 . Physical and chemical properties

Physical state	: Liquid. [Paste.]
Flash point	: Closed cup: >93.3°C (>199.9°F) [Setaflash.]
Color	: Yellow. [Light]
Odor	: Characteristic.
pH	: 8 to 9
Boiling/condensation point	: 100°C (212°F)
Relative density	: 1.31
Volatility	: 20.35% (w/w)
VOC (less water, less exempt solvents)	: 40.6 g/l

10 . Stability and reactivity

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Avoid exposure during pregnancy.
- Materials to avoid** : No specific data.
- Incompatibility** : Reactive or incompatible with the following materials: acids and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Intraperitoneal	Rat	2459 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Subcutaneous	Rat	1700 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Eyes** : Moderately irritating to eyes.
- Respiratory** : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
xylene	A4	3	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

- Conclusion/Summary** : Contains material which may cause birth defects.

Canada

Acute toxicity

11 . Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	
xylene	LD50 Dermal	Rabbit	>1700 mg/kg	-	
	LD50 Intraperitoneal	Rat	2459 mg/kg	-	
	LD50 Oral	Rat	4300 mg/kg	-	
	LD50 Subcutaneous	Rat	1700 mg/kg	-	
	TDLo Dermal	Rabbit	4300 mg/kg	-	
	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours	
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours	
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours	
	ethylene glycol	LD50 Dermal	Rabbit	9530 uL/kg	-
		LD50 Intraperitoneal	Rat	5010 mg/kg	-
LD50 Intravenous		Rat	3260 mg/kg	-	
LD50 Oral		Rat	4700 mg/kg	-	
LD50 Subcutaneous		Rat	2800 mg/kg	-	
LD50 Unreported		Rat	13 g/kg	-	
LDLo Intramuscular		Rat	3300 mg/kg	-	
LDLo Intravenous		Rat	2800 mg/kg	-	
TDLo Oral		Rat	1110 mg/kg	-	
TDLo Subcutaneous		Rat	3000 mg/kg	-	
TDLo Oral		Rat	5000 mg/kg	-	
TDLo Oral		Rat	120 mg/kg	-	
TDLo Oral		Rat	1000 mg/kg	-	
TDLo Oral	Rat	2 g/kg	-		

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion**Conclusion/Summary**

- Skin** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Eyes** : Moderately irritating to eyes.
- Respiratory** : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity**Classification**

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
xylene	A4	3	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : Contains material which may cause birth defects.

Mexico

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Intraperitoneal	Rat	2459 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LD50 Subcutaneous	Rat	1700 mg/kg	-
	TDLo Dermal	Rabbit	4300 mg/kg	-
	LC50 Inhalation Gas.	Rat	6700 ppm	4 hours
	LC50 Inhalation Gas.	Rat	6670 ppm	4 hours
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

- Skin** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Eyes** : Moderately irritating to eyes.
- Respiratory** : Irritating to respiratory system.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
xylene	A4	3	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

Conclusion/Summary : Contains material which may cause birth defects.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
xylene	-	Acute LC50 8.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 13500 to 16100 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 13500 to 15034 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 13500 to 19200 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours

12 . Ecological information

-	Acute LC50 13400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 18.4 mm - 0.077 g	96 hours
-	Acute LC50 13300 to 16114 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
-	Acute LC50 12000 to 13762 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
-	Acute LC50 8600 to 9591 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
-	Acute LC50 8500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
-	Acute LC50 8200 to 10032 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
-	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
-	Acute LC50 14400 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours

Biodegradability

No known significant effects or critical hazards.

Canada**Aquatic ecotoxicity**

Product/ingredient name	Test	Result	Species	Exposure
xylene	-	Acute LC50 8.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 13500 to 19200 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours
	-	Acute LC50 13500 to 16100 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 13500 to 15034 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 13400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 18.4 mm - 0.077 g	96 hours
	-	Acute LC50 13300 to 16114 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 12000 to 13762 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 8600 to 9591 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 8500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 8200 to 10032 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
	-	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours

12 . Ecological information

ethylene glycol	-	Acute LC50 14400 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 >18500 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 41 to 47 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.7 g	96 hours
	-	Acute LC50 16 to 18 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 27540 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.85 g	96 hours
	-	Acute LC50 22600000 to 26500000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13900000 to 16600000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13140000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Acute LC50 10500000 to 12700000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 10000000 to 12300000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 8050000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
	-	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	-	Acute LC50 1000000000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours
	-	Acute LC50 53000000 to 56000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Fry - 10 to 15 days - 9.5 mm - 11.6 mg	96 hours
	-	Acute LC50 25500000 to 29800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 49000000 to 60000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8	96 hours	

12 . Ecological information

-	Chronic NOEC 6090000 ug/L Fresh water	mg Fish - Fathead minnow - 96 hours Pimephales promelas - <=7 days
-	Chronic NOEC 24000000 ug/L Fresh water	Daphnia - Water flea - 48 hours Ceriodaphnia dubia - <=24 hours
-	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Water flea - 48 hours Ceriodaphnia dubia - <=24 hours
-	Chronic NOEC 39140000 ug/L Fresh water	Fish - Fathead minnow - 96 hours Pimephales promelas - <=7 days

Biodegradability

No known significant effects or critical hazards.

Mexico

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
xylene	-	Acute LC50 8.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 13500 to 15034 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 13500 to 19200 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.9 g	96 hours
	-	Acute LC50 13500 to 16100 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 13400 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 18.4 mm - 0.077 g	96 hours
	-	Acute LC50 13300 to 16114 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 12000 to 13762 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours
	-	Acute LC50 8600 to 9591 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 0.9 g	96 hours
	-	Acute LC50 8500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 8200 to 10032 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
	-	Acute LC50 3300 to 4093 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.6 g	96 hours
	-	Acute LC50 14400 ug/L Fresh water	Fish - Bluegill - Lepomis macrochirus - 1.1 g	96 hours

Biodegradability

No known significant effects or critical hazards.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Irritating material

U.S. Federal regulations : TSCA 8(a) PAIR: Nonylphenol, branched, ethoxylated; Octyl phenol condensed with 20 moles ethylene oxide
TSCA 8(a) IUR: water; Nonylphenol, branched, ethoxylated; Octyl phenol condensed with 20 moles ethylene oxide; Distillates (petroleum), solvent-refined heavy paraffinic; water; Poly(oxy-1,2-ethanediyl), α -sulfo- ω -(nonylphenoxy)-, branched, ammonium salt; water

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

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: xylene

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

Product name

CAS number

Concentration

15 . Regulatory information

Form R - Reporting requirements : xylene 1330-20-7 1 - 5

Supplier notification : xylene 1330-20-7 1 - 5

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

State regulations : **Massachusetts Spill:** None of the components are listed.
Massachusetts Substances: The following components are listed: XYLENE
New Jersey Hazardous Substances: The following components are listed: XYLENES;
 BENZENE, DIMETHYL-
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed:
 BENZENE, DIMETHYL-

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
 Class D-2B: Material causing other toxic effects (Toxic).

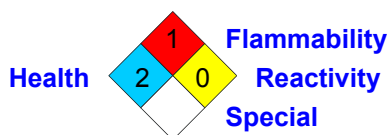
Canadian lists : **CEPA Toxic substances:** None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Xylene
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

**International regulations**

International lists : **Australia inventory (AICS):** Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16 . Other information

Label requirements : CAUSES RESPIRATORY TRACT AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. POSSIBLE DEVELOPMENTAL HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE DEVELOPMENTAL EFFECTS.

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

Health	1
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs 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 mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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Version : 1

✔ Indicates information that has changed from previously issued version.

Notice to reader

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

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