

Franklin International

Material Safety Data Sheet

Product name : Titebond All Weather Subfloor 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 : 3106
Product code : 5492
Date of revision : 10/19/2010.
Print date : 12/16/2010.
Chemtrec (24 Hour) : (800) 424 - 9300
Chemtrec International : (703) 527 - 3887
Chemical family : Adhesive.
Product use : Construction Adhesive
Product type : Solvent based

2. Hazards identification

Physical state : Liquid. [Paste.]
Odor : Solvent(s) [Slight]
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : DANGER!
EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES.
Extremely flammable liquid. Harmful by inhalation. May be harmful if swallowed. Severely irritating to eyes. Irritating to respiratory system and skin. Defatting to the skin. Keep away from heat, sparks and flame. Do not breathe vapor or mist. Do not ingest. Do not get in eyes. Avoid contact with skin and clothing. Contains material which can impair female fertility. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry : Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects
Inhalation : Toxic by inhalation. Irritating to respiratory system.
Ingestion : Harmful if swallowed.
Skin : Irritating to skin.
Eyes : Severely irritating to eyes. Risk of serious damage to eyes.

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** : No known significant effects or critical hazards.
- Fertility effects** : Contains material which can impair female fertility.
- Target organs** : Contains material which may cause damage to the following organs: kidneys, liver, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

- Inhalation** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness. 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:
pain or 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>
n-Hexane	110-54-3	10 - 25
Toluene	108-88-3	10 - 25

Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
n-Hexane	110-54-3	10 - 25
Toluene	108-88-3	10 - 25

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>
Toluene	108-88-3	UN1993	10 - 25	500 ppm	1	3	0	
n-Hexane	110-54-3	UN1993	10 - 25	1100 ppm	0	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** : Extremely flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- 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. 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.

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. 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 (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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.

6 . Accidental release measures

- 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). Use spark-proof tools and explosion-proof equipment. 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. 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 non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.
- 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. 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.

8 . Exposure controls/personal protection

United States

Ingredient	Exposure limits
n-Hexane	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 50 ppm 8 hour(s). TWA: 180 mg/m³ 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 50 ppm 10 hour(s). TWA: 180 mg/m³ 10 hour(s).</p> <p>ACGIH TLV (United States, 2/2010). Absorbed through skin. TWA: 50 ppm 8 hour(s).</p> <p>OSHA PEL (United States, 6/2010). TWA: 500 ppm 8 hour(s). TWA: 1800 mg/m³ 8 hour(s).</p>
Toluene	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 100 ppm 8 hour(s). TWA: 375 mg/m³ 8 hour(s). STEL: 150 ppm 15 minute(s). STEL: 560 mg/m³ 15 minute(s).</p> <p>OSHA PEL Z2 (United States, 11/2006). TWA: 200 ppm 8 hour(s). CEIL: 300 ppm AMP: 500 ppm 10 minute(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 100 ppm 10 hour(s).</p>

8 . Exposure controls/personal protection

TWA: 375 mg/m³ 10 hour(s).
 STEL: 150 ppm 15 minute(s).
 STEL: 560 mg/m³ 15 minute(s).
ACGIH TLV (United States, 2/2010).
 TWA: 20 ppm 8 hour(s).

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
n-Hexane	US ACGIH 2/2010	50	-	-	-	-	-	-	-	-	[1]
	AB 4/2009	50	176	-	-	-	-	-	-	-	[1]
	BC 10/2009	20	-	-	-	-	-	-	-	-	[1]
	ON 7/2010	50	-	-	-	-	-	-	-	-	[1]
Toluene	QC 6/2008	50	176	-	-	-	-	-	-	-	[1]
	US ACGIH 2/2010	20	-	-	-	-	-	-	-	-	
	AB 4/2009	50	188	-	-	-	-	-	-	-	[1]
	BC 10/2009	20	-	-	-	-	-	-	-	-	
	ON 7/2010	20	-	-	-	-	-	-	-	-	
	QC 6/2008	50	188	-	-	-	-	-	-	-	[1]

[1]Absorbed through skin.

Mexico

Ingredient	Exposure limits
n-Hexane	NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 50 ppm 8 hour(s). LMPE-PPT: 176 mg/m ³ 8 hour(s).
Toluene	NOM-010-STPS (Mexico, 9/2000). Absorbed through skin. LMPE-PPT: 50 ppm 8 hour(s). LMPE-PPT: 188 mg/m ³ 8 hour(s).

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. 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.

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.

8 . Exposure controls/personal protection

- 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: <-17.778°C (<-0.0004°F) [Setaflash.]
- Color** : Beige.
- Odor** : Solvent(s) [Slight]
- Boiling/condensation point** : 68.889°C (156°F)
- Relative density** : 1.14 to 1.18
- Volatility** : 31 to 34.5% (w/w)
- VOC (less water, less exempt solvents)** : 389 g/l
- Solubility** : Insoluble in the following materials: cold water and hot water.

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 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.
- Materials to avoid** : Highly reactive or incompatible with the following materials: oxidizing materials
- Incompatibility** : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Conditions of reactivity** : Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.

11 . Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-Hexane	LD50 Oral	Rat	29700 mg/kg	-
	LD50 Oral	Rat	15840 mg/kg	-
	LDLo	Rat	9100 mg/kg	-
	Intraperitoneal			
	TDLo Oral	Rat	20000 mg/kg	-
	LC50 Inhalation	Rat	627000 mg/m3	3 minutes
	Vapor			
Toluene	LC50 Inhalation	Rat	48000 ppm	4 hours
	Gas.			
	LD50 Dermal	Rabbit	14100 uL/kg	-
	LD50	Rat	1332 mg/kg	-
	Intraperitoneal			
	LD50 Intravenous	Rat	1960 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-

11 . Toxicological information

LD50 Unreported	Rat	6900 mg/kg	-
LDLo	Rat	2.5 mL/kg	-
Intraperitoneal			
TDLo Dermal	Rat	26.4 mg/kg	-
TDLo Oral	Rat	1000 mg/kg	-
TDLo Oral	Rat	400 mg/kg	-
TDLo Oral	Rat	800 mg/kg	-
TDLo Oral	Rat	650 mg/kg	-
TDLo Oral	Rat	1200 mg/kg	-
TDLo	Rat	1 g/kg	-
Intraperitoneal			
TDLo	Rat	900 mg/kg	-
Intraperitoneal			
TDLo	Rat	750 mg/kg	-
Intraperitoneal			
TDLo	Rat	600 mg/kg	-
Intraperitoneal			
LC50 Inhalation	Rat	49 g/m ³	4 hours
Vapor			

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** : Severely irritating to eyes.
- Respiratory** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

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

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Toluene	-	-	-	Rat	Inhalation	-

Conclusion/Summary : Reproductive toxicant - female

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
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11 . Toxicological information

n-Hexane	LD50 Oral	Rat	29700 mg/kg	-
	LD50 Oral	Rat	15840 mg/kg	-
	LDLo	Rat	9100 mg/kg	-
	Intraperitoneal			
	TDLo Oral	Rat	20000 mg/kg	-
	LC50 Inhalation Vapor	Rat	627000 mg/m3	3 minutes
	LC50 Inhalation Gas.	Rat	48000 ppm	4 hours
Toluene	LD50 Dermal	Rabbit	14100 uL/kg	-
	LD50	Rat	1332 mg/kg	-
	Intraperitoneal			
	LD50 Intravenous	Rat	1960 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
	LD50 Unreported	Rat	6900 mg/kg	-
	LDLo	Rat	2.5 mL/kg	-
	Intraperitoneal			
	TDLo Dermal	Rat	26.4 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
	TDLo Oral	Rat	400 mg/kg	-
	TDLo Oral	Rat	800 mg/kg	-
	TDLo Oral	Rat	650 mg/kg	-
	TDLo Oral	Rat	1200 mg/kg	-
	TDLo	Rat	1 g/kg	-
	Intraperitoneal			
	TDLo	Rat	900 mg/kg	-
Intraperitoneal				
TDLo	Rat	750 mg/kg	-	
Intraperitoneal				
TDLo	Rat	600 mg/kg	-	
Intraperitoneal				
LC50 Inhalation Vapor	Rat	49 g/m3	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** : Severely irritating to eyes.
- Respiratory** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

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

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

11 . Toxicological information

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Toluene	-	-	-	Rat	Inhalation	-

Conclusion/Summary : Reproductive toxicant - female

Mexico

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	
Toluene	LD50 Dermal	Rabbit	14100 uL/kg	-	
	LD50 Intraperitoneal	Rat	1332 mg/kg	-	
	LD50 Intravenous	Rat	1960 mg/kg	-	
	LD50 Oral	Rat	636 mg/kg	-	
	LD50 Unreported	Rat	6900 mg/kg	-	
	LDLo Intraperitoneal	Rat	2.5 mL/kg	-	
	TDLo Dermal	Rat	26.4 mg/kg	-	
	TDLo Oral	Rat	1000 mg/kg	-	
	TDLo Oral	Rat	400 mg/kg	-	
	TDLo Oral	Rat	800 mg/kg	-	
	TDLo Oral	Rat	650 mg/kg	-	
	TDLo Oral	Rat	1200 mg/kg	-	
	TDLo Intraperitoneal	Rat	1 g/kg	-	
	TDLo Intraperitoneal	Rat	900 mg/kg	-	
	TDLo Intraperitoneal	Rat	750 mg/kg	-	
	TDLo Intraperitoneal	Rat	600 mg/kg	-	
	LC50 Inhalation Vapor	Rat	49 g/m ³	4 hours	
	n-Hexane	LD50 Oral	Rat	29700 mg/kg	-
		LD50 Oral	Rat	15840 mg/kg	-
		LDLo Intraperitoneal	Rat	9100 mg/kg	-
TDLo Oral		Rat	20000 mg/kg	-	
LC50 Inhalation Vapor		Rat	627000 mg/m ³	3 minutes	
LC50 Inhalation Gas.		Rat	48000 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** : Severely irritating to eyes.
- Respiratory** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

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

11 . Toxicological information

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Toluene	-	-	-	Rat	Inhalation	-
Conclusion/Summary	: Reproductive toxicant - female					

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
n-Hexane	-	Acute LC50 113000 ug/L Fresh water	Fish - Mozambique tilapia - Tilapia mossambica - 99 mm - 10 g	96 hours
	-	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 20.4 mm - 0.123 g	96 hours
Toluene	-	Acute EC50 19600 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - LARVAE	48 hours
	-	Acute EC50 6880 to 9830 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
	-	Acute EC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
	-	Acute EC50 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	-	Acute LC50 15.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 15500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 9360 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - >90 days	96 hours
	-	Acute LC50 8110 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - 0.3 g	96 hours
	-	Acute LC50 8090 to 8780 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
	-	Acute LC50 7630 to 8480 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
-	Acute LC50 170000 ug/L Marine water	Crustaceans - Dungeness or edible crab - Cancer	48 hours	

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-	Acute LC50 97700 to 174700 ug/L Fresh water	magister - Zoea Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
-	Acute LC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
-	Acute LC50 6410 to 7180 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
-	Acute LC50 86300 to 174700 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
-	Acute LC50 5800 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 5500 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - 1 g	96 hours
-	Acute LC50 310000 to 420000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
-	Acute LC50 7.3 ul/L Marine water	Fish - Striped bass - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 6 g	96 hours
-	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours

Biodegradability

No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
n-Hexane	-	Acute LC50 113000 ug/L Fresh water	Fish - Mozambique tilapia - Tilapia mossambica - 99 mm - 10 g	96 hours
	-	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 20.4 mm - 0.123 g	96 hours
Toluene	-	Acute EC50 19600 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - LARVAE	48 hours
	-	Acute EC50 6880 to 9830 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
	-	Acute EC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
	-	Acute EC50 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours

12 . Ecological information

-	Acute LC50 15.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
-	Acute LC50 15500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
-	Acute LC50 9360 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - >90 days	96 hours
-	Acute LC50 8110 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - 0.3 g	96 hours
-	Acute LC50 8090 to 8780 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
-	Acute LC50 7630 to 8480 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
-	Acute LC50 170000 ug/L Marine water	Crustaceans - Dungeness or edible crab - Cancer magister - Zoea	48 hours
-	Acute LC50 97700 to 174700 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
-	Acute LC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
-	Acute LC50 6410 to 7180 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
-	Acute LC50 86300 to 174700 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
-	Acute LC50 5800 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
-	Acute LC50 5500 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - 1 g	96 hours
-	Acute LC50 310000 to 420000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
-	Acute LC50 7.3 ul/L Marine water	Fish - Striped bass - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 6 g	96 hours
-	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours

Biodegradability

No known significant effects or critical hazards.

Mexico

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
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12 . Ecological information

Toluene	-	Acute EC50 19600 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - LARVAE	48 hours
	-	Acute EC50 6880 to 9830 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
	-	Acute EC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
	-	Acute EC50 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	-	Acute LC50 15.5 ppm Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio - Adult	48 hours
	-	Acute LC50 15500 ug/L Marine water	Crustaceans - Daggerblade grass shrimp - Palaemonetes pugio	48 hours
	-	Acute LC50 9360 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - >90 days	96 hours
	-	Acute LC50 8110 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - 0.3 g	96 hours
	-	Acute LC50 8090 to 8780 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
	-	Acute LC50 7630 to 8480 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
	-	Acute LC50 170000 ug/L Marine water	Crustaceans - Dungeness or edible crab - Cancer magister - Zoea	48 hours
	-	Acute LC50 97700 to 174700 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
	-	Acute LC50 6780 to 7810 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling) - 54 mm - 2.187 g	96 hours
	-	Acute LC50 6410 to 7180 ug/L Marine water	Fish - Pink salmon - Oncorhynchus gorbuscha - FRY - 3.5 cm - 0.35 g	96 hours
	-	Acute LC50 86300 to 174700 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <=24 hours	48 hours
	-	Acute LC50 5800 ug/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 5500 ug/L Fresh water	Fish - Coho salmon,silver salmon - Oncorhynchus kisutch - FRY - 1 g	96 hours
	-	Acute LC50 310000 to 420000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours

12 . Ecological information

	-	Acute LC50 7.3 ul/L Marine water	Fish - Striped bass - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling) - 6 g	96 hours
	-	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - <=24 hours	48 hours
n-Hexane	-	Acute LC50 113000 ug/L Fresh water	Fish - Mozambique tilapia - Tilapia mossambica - 99 mm - 10 g	96 hours
	-	Acute LC50 2500 to 2980 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - 31 days - 20.4 mm - 0.123 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	1133	Consumer commodity	ORM-D	III		-
TDG Classification	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
Mexico Classification	1133	ADHESIVES, containing flammable liquid	3	III		-
ADR/RID Class	1133	ADHESIVES, containing flammable liquid	3	III		-
IMDG Class	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity

14 . Transport information

IATA-DGR Class	1133	ADHESIVES, containing flammable liquid	3	III		Remarks Limited quantity
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PG* : Packing group

15 . Regulatory information**United States**

HCS Classification : Flammable liquid
Toxic material
Irritating material

U.S. Federal regulations : TSCA 8(a) IUR: Styrene polymer with 1,3-butadiene
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: n-Hexane; Toluene; Styrene polymer with 1,3-butadiene

SARA 311/312 MSDS distribution - chemical inventory - hazard identification:

Titebond All Weather Subfloor Adhesive: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	n-Hexane	110-54-3	10 - 25
	Toluene	108-88-3	10 - 25
Supplier notification	n-Hexane	110-54-3	10 - 25
	Toluene	108-88-3	10 - 25

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: HEXANE; TOLUENE
New Jersey Hazardous Substances: The following components are listed: n-HEXANE; HEXANE; TOLUENE; BENZENE, METHYL-
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: HEXANE; BENZENE, METHYL-

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Toluene	No.	Yes.	No.	7000 µg/day (ingestion)

Canada

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

15 . Regulatory information

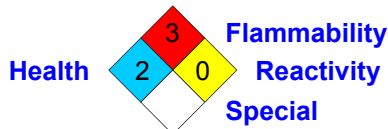
Canadian lists : **CEPA Toxic substances:** None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: n-Hexane; Toluene
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None 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 : EXTREMELY FLAMMABLE LIQUID AND VAPOR. FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES.

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

Health	*	2
Flammability		3
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.

16 . Other information

Date of printing : 12/16/2010.

Date of issue : 10/19/2010.

Date of previous issue : 5/6/2009.

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.