

# Franklin International

## Safety Data Sheet

### Titebond Solvent-Based Subfloor Adhesive

#### Section 1. Identification

<b>GHS product identifier</b>	: Titebond Solvent-Based Subfloor Adhesive
<b>Physical state</b>	: Liquid.
<b>Address</b>	: Franklin International 2020 Bruck Street Columbus OH 43207
<b>Contact person</b>	: Franklin Technical Services
<b>Telephone</b>	: (800) 877-4583
<b>In case of emergency</b>	: Franklin Security (614) 445-1300
<b>e-mail address of person responsible for this SDS</b>	: SDS@FranklinInternational.com
<b>Reference number</b>	: 3106
<b>Product code</b>	: 5492
<b>Date of revision</b>	: 2/16/2026
<b>Safety Data Sheets are available online at</b>	: www.FranklinInternational.com
<b>Chemtrec (24 Hour)</b>	: (800) 424 - 9300
<b>Chemtrec International</b>	: +1 703-741-5970
<b>Chemical family</b>	: Adhesive.

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

##### Identified uses

Adhesive.

##### Uses advised against

Not applicable.

#### Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

#### GHS label elements

##### Hazard pictograms



## Section 2. Hazards identification

- Signal word** : Danger
- Hazard statements** : Highly flammable liquid and vapor.  
Causes skin irritation.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Suspected of damaging fertility or the unborn child. (inhalation)  
Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS), kidneys, liver) (inhalation)
- Precautionary statements**
- Prevention** : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and 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 thoroughly after handling.
- Response** : IF exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation occurs: Get medical advice or attention.
- Storage** : Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Avoid contact with skin and clothing. Wash thoroughly after handling.
- Hazards not otherwise classified** : Prolonged or repeated contact may dry skin and cause irritation.
- Hazards identified when used** : No known significant effects or critical hazards.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	Synonyms	%	Identifiers
n-hexane	hexane; normal-Hexane; Hexyl hydride; hydrocarbons, C6, n-alkanes, iso-alkanes, cycloalkanes, with n-hexane containing at least 60% and less than 95% n-hexane; mixture of C6 aliphatic hydrocarbons (CAS RN 92112-69-1), containing by weight 60 % or more but not more than 80 % of n-hexane (CAS RN 110-54-3); Normal hexane; hexane, n-; hexane, (n)	≥10 - ≤30	CAS: 110-54-3
toluene	Benzene, methyl-; Methylbenzene; Toluol; Phenyl methane; Methyl benzol; toluene, pure; toluene, crude	≥10 - ≤30	CAS: 108-88-3
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	DBMC; Phenol, 2,2'-methylenebis [6-(1,1-dimethylethyl)-4-methyl-;	≥0.1 - ≤1	CAS: 119-47-1

## Section 3. Composition/information on ingredients

	2,2'-Methylenebis[4-methyl-6-tert-butylphenol; Methylene bis methyl butyl phenol; Methane, 2,2'-bis(6-t-butyl-p-cresyl)-; 2,2'-methylenebis(4-methyl-6-tert-butylphenol); BIS (2-HYDROXY-3TERT-BUTYL-5-METHYLPHENYL) METHA; METHYLENE DI-T-BUTYLCRESOL; 2,2'-methylene bis(4-methyl-6-tert-butylphenol); 2,2'-Methylenedis(4-methyl-6-tert-butylphenol); Anti oxidant 2246		
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Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

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

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : 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. Get medical attention.
- Inhalation** : 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. Get medical attention. If necessary, call a poison center or physician. 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.
- Skin contact** : Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. 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. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : This product may irritate eyes upon contact.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
- Skin contact** : Causes skin irritation. Defatting to the skin.
- Ingestion** : Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

## Section 4. First aid measures

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
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:  
irritation  
redness  
dryness  
cracking

**Ingestion** : No specific data.

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

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, 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. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

**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.

## 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### 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. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). 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. Avoid release to the environment. 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.
- Conditions for safe storage, including any incompatibilities** : Do not store above the following temperature: 43.333°C (110°F). 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
n-hexane	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 50 ppm. TWA 10 hours: 180 mg/m<sup>3</sup>.</p> <p><b>CAL OSHA PEL (United States, 1/2025)</b> Absorbed through skin. TWA 8 hours: 180 mg/m<sup>3</sup>. TWA 8 hours: 50 ppm.</p> <p><b>OSHA PEL (United States, 5/2018)</b> TWA 8 hours: 500 ppm. TWA 8 hours: 1800 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 50 ppm. TWA 8 hours: 180 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2025)</b> Absorbed through skin. TWA 8 hours: 50 ppm.</p>
toluene	<p><b>NIOSH REL (United States, 10/2020)</b> TWA 10 hours: 100 ppm. TWA 10 hours: 375 mg/m<sup>3</sup>. STEL 15 minutes: 150 ppm. STEL 15 minutes: 560 mg/m<sup>3</sup>.</p> <p><b>OSHA PEL Z2 (United States, 2/2013)</b> TWA 8 hours: 200 ppm. CEIL: 300 ppm. AMP 10 minutes: 500 ppm.</p> <p><b>CAL OSHA PEL (United States, 1/2025)</b> Absorbed through skin. STEL 15 minutes: 560 mg/m<sup>3</sup>. STEL 15 minutes: 150 ppm. C: 500 ppm. TWA 8 hours: 37 mg/m<sup>3</sup>. TWA 8 hours: 10 ppm.</p> <p><b>OSHA PEL 1989 (United States, 3/1989)</b> TWA 8 hours: 100 ppm. TWA 8 hours: 375 mg/m<sup>3</sup>. STEL 15 minutes: 150 ppm. STEL 15 minutes: 560 mg/m<sup>3</sup>.</p> <p><b>ACGIH TLV (United States, 1/2025) A4.</b> Ototoxicant. TWA 8 hours: 20 ppm.</p>
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	None.

#### Biological exposure indices

Ingredient name	Exposure indices
n-hexane	<p><b>ACGIH BEI (United States, 1/2025)</b> BEI: 0.5 mg/l, 2,5-hexanedion [in urine]. Sampling time: end of shift.</p>
toluene	<p><b>ACGIH BEI (United States, 1/2025)</b> BEI: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift. BEI: 0.3 mg/g creatinine, o-cresol [in urine].</p>

## Section 8. Exposure controls/personal protection

Sampling time: end of shift.  
BEI: 0.02 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.

- 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. 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.
- 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 anti-static 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** : If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

- Physical state** : Liquid. [Paste.]
- Color** : Beige.
- Odor** : Solvent(s) [Slight]
- Odor threshold** : Not available.
- pH** :

## Section 9. Physical and chemical properties

	Not applicable.
<b>Melting point/freezing point</b>	: Not available.
<b>Boiling point or initial boiling point and boiling range</b>	: 68.889°C (156°F)
<b>Flash point</b>	: Closed cup: -17.7°C (0.14°F) [Setaflash]
<b>Evaporation rate</b>	: Not available.
<b>Flammability</b>	: Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
<b>Lower and upper explosion limit/flammability limit</b>	: Not available.
<b>VOC (less water, less exempt solvents)</b>	: 389 g/l
<b>Vapor pressure</b>	:

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
hexane	127.51036	17				

<b>Relative vapor density</b>	: Not available.
<b>Relative density</b>	: 1.14 to 1.18
<b>Solubility(ies)</b>	:

Media	Result
cold water	Not soluble
hot water	Not soluble

<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/water</b>	: Not applicable.
<b>Auto-ignition temperature</b>	:

Ingredient name	°C	°F	Method
hexane	225	437	

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.

## Section 10. Stability and reactivity

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

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### Product/ingredient name

n-hexane

##### Result

**Rat - Oral - LD50**

15840 mg/kg

**Rat - Inhalation - LC50 Gas.**

48000 ppm [4 hours]

**Rat - Oral - LD50**

636 mg/kg

**Rat - Inhalation - LC50 Vapor**

49 g/m<sup>3</sup> [4 hours]

**Rat - Oral - LD50**

4880 mg/kg

toluene

6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol

**Conclusion/Summary [Product]** : Not available.

#### Skin corrosion/irritation

##### Product/ingredient name

toluene

##### Result

**Pig - Skin - Mild irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 250 uL

**Rabbit - Skin - Mild irritant**

Amount/concentration applied: 435 mg

**Rabbit - Skin - Moderate irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 20 mg

**Rabbit - Skin - Moderate irritant**

Amount/concentration applied: 500 mg

**Conclusion/Summary [Product]** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

#### Serious eye damage/eye irritation

##### Product/ingredient name

n-hexane

##### Result

**Rabbit - Eyes - Mild irritant**

Amount/concentration applied: 10 mg

**Rabbit - Eyes - Mild irritant**

Duration of treatment/exposure: 0.5 minutes

Amount/concentration applied: 100 mg

**Rabbit - Eyes - Mild irritant**

Amount/concentration applied: 870 ug

**Rabbit - Eyes - Severe irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 2 mg

**Rabbit - Eyes - Severe irritant**

Amount/concentration applied: 0.1 MI

**Rabbit - Eyes - Moderate irritant**

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 mg

toluene

6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol

**Conclusion/Summary [Product]** : Severely irritating to eyes.

## Section 11. Toxicological information

### Respiratory corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : High vapor concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness.

### Respiratory or skin sensitization

Not available.

### **Skin**

**Conclusion/Summary [Product]** : Not available.

### **Respiratory**

**Conclusion/Summary [Product]** : Not available.

### Germ cell mutagenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : Not available.

### Classification

Product/ingredient name	OSHA	IARC	NTP
Toluene	-	3	-

### Reproductive toxicity

Not available.

**Conclusion/Summary [Product]** : Reproductive toxicant - female

### Specific target organ toxicity (single exposure)

#### **Product/ingredient name**

Titebond Solvent-Based Subfloor Adhesive

n-hexane

toluene

#### **Result**

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)  
(Respiratory tract irritation) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)  
(Narcotic effects) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)  
(Narcotic effects) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)  
(Narcotic effects) - Category 3

### Specific target organ toxicity (repeated exposure)

#### **Product/ingredient name**

#### **Result**

## Section 11. Toxicological information

Titebond Solvent-Based Subfloor Adhesive	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), kidneys, liver) (inhalation) - Category 1
n-hexane	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) (inhalation) - Category 2
toluene	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (nervous system) (inhalation) - Category 2

### Aspiration hazard

Product/ingredient name	Result
n-hexane	ASPIRATION HAZARD - Category 1
toluene	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

<b>Eye contact</b>	: This product may irritate eyes upon contact.
<b>Inhalation</b>	: Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
<b>Skin contact</b>	: Causes skin irritation. Defatting to the skin.
<b>Ingestion</b>	: Can cause central nervous system (CNS) depression.

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Eye contact</b>	: Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin contact</b>	: Adverse symptoms may include the following: irritation redness dryness cracking
<b>Ingestion</b>	: No specific data.

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

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

## Section 11. Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**Conclusion/Summary [Product]** : Not available.

**General** : Causes damage to organs through prolonged or repeated exposure if inhaled. 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.

**Reproductive toxicity** : Suspected of damaging fertility or the unborn child. (inhalation)

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
hexane	15840	N/A	48000	N/A	N/A
toluene	N/A	N/A	N/A	49	N/A
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	4880	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

#### Product/ingredient name

hexane

#### Result

##### Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Age: 31 days; Size: 20.4 mm; Weight: 0.123 g

2500 µg/l [96 hours]

Effect: Mortality

##### Acute - EC50

Crustaceans

3.9 mg/l [48 hours]

##### Acute - EC50

Algae

0.89 mg/l [96 hours]

##### Chronic - NOEC

Fish - rainbow trout

2.8 mg/l [28 days]

##### Chronic - NOEC

Crustaceans

4.9 mg/l [21 days]

toluene

##### Acute - LC50 - Fresh water

Fish - Coho salmon, silver salmon - *Oncorhynchus kisutch* - Fry

Weight: 1 g

5500 µg/l [96 hours]

## Section 12. Ecological information

Effect: Mortality

### Acute - EC50 - Fresh water

Daphnia - Water flea - *Daphnia magna* - Juvenile (Fledgling, Hatchling, Weanling)  
6000 µg/l [48 hours]

Effect: Intoxication

### Chronic - NOEC - Fresh water

Daphnia - Water flea - *Daphnia magna*

Age: ≤24 hours

1 mg/l [21 days]

Effect: Mortality

### Acute - EC50 - Fresh water

Algae - Green algae - *Raphidocelis subcapitata*

12.5 mg/l [72 hours]

Effect: Growth

**Conclusion/Summary [Product]** : Not available.

### Persistence and degradability

Not available.

**Conclusion/Summary [Product]** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
n-hexane	-	-	Readily
toluene	-	-	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
n-hexane	4	501.187	High
toluene	2.73	90	Low
6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol	6.25	549.54	High

### Mobility in soil

**Soil/Water partition coefficient** : 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.







## Section 13. Disposal considerations

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.

### RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Toluene	-	Listed	U220

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1133	UN1133	UN1133	UN1133	UN1133	UN1133
UN proper shipping name	ADHESIVES, containing flammable liquid	ADHESIVES, containing flammable liquid	ADHESIVES, containing flammable liquid	ADHESIVES, containing flammable liquid	ADHESIVES, containing flammable liquid	ADHESIVES, containing flammable liquid
Transport hazard class(es)	3 	3 	3 	3 	3 	3 
Packing group	III	III	III	III	III	III
Environmental hazards	No.	No.	No.	No.	No.	No.

### Additional information

#### DOT Classification

: **Reportable quantity** 7049 lbs / 3200.2 kg [728.81 gal / 2758.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Remarks** Limited quantity

#### TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

**Remarks** Limited quantity

#### Mexico Classification

: **Remarks** Limited quantity

#### ADR/RID

: **Tunnel code** (D/E)  
**Remarks** Limited quantity

#### IMDG

: **Remarks** Limited quantity

## Section 15. Regulatory information

### U.S. Federal regulations

#### SARA 302/304

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

##### Classification

: FLAMMABLE LIQUIDS - Category 2  
 SKIN IRRITATION - Category 2  
 TOXIC TO REPRODUCTION - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1  
 HNOC - Defatting irritant

##### Composition/information on ingredients

Name	%	Classification
n-hexane	≥10 - ≤30	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
toluene	≥10 - ≤30	ASPIRATION HAZARD - Category 1 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 TOXIC TO REPRODUCTION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	≥0.1 - ≤1	ASPIRATION HAZARD - Category 1 TOXIC TO REPRODUCTION - Category 2

#### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	n-hexane	110-54-3	≥10 - ≤30
	toluene	108-88-3	≥10 - ≤30
<b>Supplier notification</b>	n-hexane	110-54-3	≥10 - ≤30
	toluene	108-88-3	≥10 - ≤30

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: HEXANE; TOLUENE

**New York** : The following components are listed: Hexane; Toluene

**New Jersey** : The following components are listed: n-HEXANE; TOLUENE

**Pennsylvania** : The following components are listed: HEXANE; BENZENE, METHYL-

#### California Prop. 65

## Section 15. Regulatory information

**⚠ WARNING:** This product can expose you to chemicals including n-hexane and Toluene, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
n-hexane	-	Yes.
Toluene	-	Yes.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

**China** : All components are listed or exempted.

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

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	Expert judgment
SKIN IRRITATION - Category 2	Expert judgment
TOXIC TO REPRODUCTION - Category 2	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Expert judgment
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Expert judgment

### History

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**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)

## Section 16. Other information

UN = United Nations

### References

: Not available.

✔ Indicates information that has changed from previously issued version.

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