

# Franklin International

## Material Safety Data Sheet

Product name : Titebond II Extend

### 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** : 4295  
**Product code** : 4136  
**Date of revision** : 11/9/2010.  
**Print date** : 11/9/2010.  
**Chemtrec (24 Hour)** : (800) 424 - 9300  
**Chemtrec International** : (703) 527 - 3887  
**Chemical family** : Adhesive.  
**Product use** : PVA/ADHESIVE  
**Product type** : CROSSLINK POLYVINYL ACETATE

### 2. Hazards identification

**Physical state** : Liquid.  
**Odor** : Characteristic. [Slight]  
**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
**Emergency overview** : WARNING!  
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.  
Moderately irritating to the eyes and respiratory system. Slightly irritating to the skin. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. 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** : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation. Moderately irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.  
**Ingestion** : No known significant effects or critical hazards.  
**Skin** : Slightly irritating to the skin.  
**Eyes** : Moderately irritating to eyes.  
**Potential chronic health effects**  
**Chronic effects** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.

## 2. Hazards identification

- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- 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: upper respiratory tract, eye, lens or cornea.

### Over-exposure signs/symptoms

- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

- Ingestion** : No specific data.

- Skin** : Adverse symptoms may include the following:  
irritation  
redness

- 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>
Urea	57-13-6	1 - 5

### Canada

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Urea	57-13-6	1 - 5

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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## 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. Do not ingest. Avoid contact with eyes, skin and clothing. 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
Urea	AIHA WEEL (United States, 5/2010). TWA: 10 mg/m <sup>3</sup> 8 hour(s).

### Canada

## 8 . Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
Urea	US AIHA 5/2010	-	10	-	-	-	-	-	-	-	

### 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

<b>Physical state</b>	: Liquid.
<b>Flash point</b>	: Closed cup: Not applicable.
<b>Color</b>	: White to yellowish. [Light]
<b>Odor</b>	: Characteristic. [Slight]
<b>pH</b>	: 3
<b>Boiling/condensation point</b>	: 98.889°C (210°F)
<b>Relative density</b>	: 1.11
<b>Volatility</b>	: 51% (w/w)
<b>VOC (less water, less exempt solvents)</b>	: 3.75 g/l
<b>Solubility</b>	: Partially soluble in the following materials: cold water and hot water.

## 10 . Stability and reactivity

<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>Hazardous polymerization</b>	: Under normal conditions of storage and use, hazardous polymerization will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Materials to avoid</b>	: No specific data.
<b>Incompatibility</b>	: Reactive or incompatible with the following materials: acids and alkalis.
<b>Hazardous decomposition products</b>	: Hazardous decomposition products: carbon oxides. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11 . Toxicological information

### United States

#### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Dose</b>	<b>Exposure</b>
Urea	LD50 Intraperitoneal	Rat	>5 g/kg	-
	LD50 Intratracheal	Rat	567 mg/kg	-
	LD50 Intravenous	Rat	5300 mg/kg	-
	LD50 Oral	Rat	8471 mg/kg	-
	LD50 Subcutaneous	Rat	8200 mg/kg	-
	TDL0 Oral	Rat	750 mg/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** : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

#### Sensitizer

No known significant effects or critical hazards.

#### Carcinogenicity

No known significant effects or critical hazards.

#### Mutagenicity

No known significant effects or critical hazards.

#### Teratogenicity

No known significant effects or critical hazards.

#### Reproductive toxicity

No known significant effects or critical hazards.

### Canada

#### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Dose</b>	<b>Exposure</b>
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## 11 . Toxicological information

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	LD50 Oral	Rat	8471 mg/kg	-
	LD50 Subcutaneous	Rat	8200 mg/kg	-
	TDL0 Oral	Rat	750 mg/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** : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

### Sensitizer

No known significant effects or critical hazards.

### Carcinogenicity

No known significant effects or critical hazards.

### Mutagenicity

No known significant effects or critical hazards.

### Teratogenicity

No known significant effects or critical hazards.

### Reproductive toxicity

No known significant effects or critical hazards.

### Mexico

#### Acute toxicity

No known significant effects or critical hazards.

#### 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** : Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

### Sensitizer

No known significant effects or critical hazards.

### Carcinogenicity

No known significant effects or critical hazards.

### Mutagenicity

No known significant effects or critical hazards.

### Teratogenicity

No known significant effects or critical hazards.

### Reproductive toxicity

## 11 . Toxicological information

No known significant effects or critical hazards.

## 12 . Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Urea	-	Acute EC50 6573.1 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 6573.1 to 7061 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 3910000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours
	-	Acute LC50 72600 to 75900 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 65800 to 70200 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
	-	Acute LC50 64700 to 69200 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 23400 to 26500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - Tilapia mossambica	96 hours
	-	Acute LC50 16700 to 19600 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 >1000 mg/L Marine water	Crustaceans - Amphipod - Chaetogammarus marinus - Young - 5 mm	48 hours
	-	Acute LC50 90100 to 93900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
	-	Acute LC50 5000 ug/L Fresh water	Fish - Giant gourami - Colisa fasciata - Fingerling	96 hours
	-	Acute LC50 83700 to 86900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours

#### Biodegradability

No known significant effects or critical hazards.

### Canada

#### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Urea	-	Acute EC50 6573.1 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 6573.1 to 7061 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 3910000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours
	-	Acute LC50 72600 to 75900 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours

## 12 . Ecological information

-	Acute LC50 65800 to 70200 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours FRY - 0.8 g
-	Acute LC50 64700 to 69200 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours Egg
-	Acute LC50 23400 to 26500 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours Egg
-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - 96 hours Tilapia mossambica
-	Acute LC50 16700 to 19600 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours Egg
-	Acute LC50 >1000 mg/L Marine water	Crustaceans - Amphipod - 48 hours Chaetogammarus marinus - Young - 5 mm
-	Acute LC50 90100 to 93900 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours FRY - 0.8 g
-	Acute LC50 5000 ug/L Fresh water	Fish - Giant gourami - 96 hours Colisa fasciata - Fingerling
-	Acute LC50 83700 to 86900 ug/L Fresh water	Fish - Rohu - Labeo rohita - 96 hours FRY - 0.8 g

### Biodegradability

No known significant effects or critical hazards.

### Mexico

#### Aquatic ecotoxicity

No known significant effects or critical hazards.

### 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
<b>DOT Classification</b>	Not regulated.	-	-	-		-
<b>TDG Classification</b>	Not regulated.	-	-	-		-
<b>Mexico Classification</b>	Not regulated.	-	-	-		-
<b>ADR/RID Class</b>	Not regulated.	-	-	-		-

## 14 . Transport information

<b>IMDG Class</b>	Not regulated.	-	-	-	-	-
<b>IATA-DGR Class</b>	Not regulated.	-	-	-	-	-

PG\* : Packing group

## 15 . Regulatory information

### United States

- HCS Classification** : Irritating material
- U.S. Federal regulations** : TSCA 8(a) IUR: water; Distillates (petroleum), solvent-dewaxed heavy paraffinic; Acetic acid ethenyl ester, polymer with ethenol; water; water; Distillates (petroleum), solvent-refined light paraffinic  
**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**: Urea  
**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

- State regulations** : **Massachusetts Spill**: None of the components are listed.  
**Massachusetts Substances**: None of the components are listed.  
**New Jersey Hazardous Substances**: None of the components are listed.  
**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**: None of the components are listed.

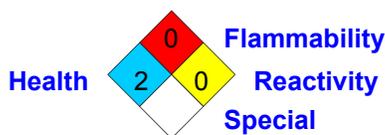
### Canada

- WHMIS (Canada)** : Not controlled under WHMIS (Canada).
- Canadian lists** : **CEPA Toxic substances**: None of the components are listed.  
**Canadian ARET**: None of the components are listed.  
**Canadian NPRI**: None of the components are listed.  
**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

## 15 . Regulatory information

<b>International lists</b>	: 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.
<b>Chemical Weapons Convention List Schedule I Chemicals</b>	: Not listed
<b>Chemical Weapons Convention List Schedule II Chemicals</b>	: Not listed
<b>Chemical Weapons Convention List Schedule III Chemicals</b>	: Not listed

## 16 . Other information

**Label requirements** : MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

**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.

<b>Date of printing</b>	: 11/9/2010.
<b>Date of issue</b>	: 11/9/2010.
<b>Date of previous issue</b>	: 12/14/2009.
<b>Version</b>	: 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.