

# Franklin International

## Safety Data Sheet

### Titebond X-Treme Multipurpose Triple Expansion Straw Foam Aerosol

#### Section 1. Identification

|  |   |
|--|---|
| <b>GHS product identifier</b>  | : Titebond X-Treme Multipurpose Triple Expansion Straw Foam Aerosol |
| <b>Physical state</b>  | : Aerosol.  |
| <b>Address</b>   | : Franklin International<br>2020 Bruck Street<br>Columbus OH 43207  |
| <b>Contact person</b>  | : Franklin Technical Services                                       |
| <b>Telephone</b>   | : (800) 877-4583  |
| <b>In case of emergency</b>  | : Franklin Security<br>(614) 445-1300                               |
| <b>e-mail address of person responsible for this SDS</b>                             | : SDS@FranklinInternational.com                                     |
| <b>Product code</b>  | : 8521  |
| <b>Date of revision</b>  | : 10/25/2018  |
| <b>Safety Data Sheets are available online at</b>                                    | : www.FranklinInternational.com                                     |
| <b>Chemtrec (24 Hour)</b>  | : (800) 424 - 9300  |
| <b>Chemtrec International</b>  | : (703) 527 - 3887  |
| <b>Relevant identified uses of the substance or mixture and uses advised against</b> |   |

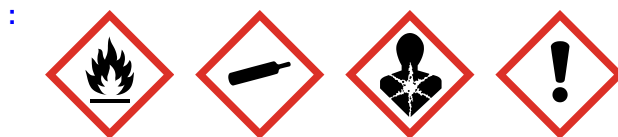
Not applicable.

#### 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 AEROSOLS - Category 1<br>GASES UNDER PRESSURE - Compressed gas<br>ACUTE TOXICITY (inhalation) - Category 4<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>RESPIRATORY SENSITIZATION - Category 1<br>SKIN SENSITIZATION - Category 1<br>TOXIC TO REPRODUCTION - Effects on or via lactation<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (skin) (dermal) - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), lungs) (inhalation) - Category 2 |

#### GHS label elements

##### Hazard pictograms



**Signal word** : Danger

## Section 2. Hazards identification

- Hazard statements** : Extremely flammable aerosol.  
 Contains gas under pressure; may explode if heated.  
 Harmful if inhaled.  
 Causes serious eye irritation.  
 Causes skin irritation.  
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 May cause an allergic skin reaction.  
 May cause harm to breast-fed children.  
 May cause respiratory irritation.  
 May cause damage to organs through prolonged or repeated exposure if inhaled.  
 (central nervous system (CNS), lungs)  
 May cause damage to organs through prolonged or repeated exposure in contact with skin. (skin)
- Precautionary statements**
- Prevention** : Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Use only outdoors or in a well-ventilated area. Do not breathe dust or mist. Avoid contact during pregnancy or while nursing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Pressurized container: Do not pierce or burn, even after use.
- Response** : Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. If experiencing respiratory symptoms: Call a POISON CENTER or physician. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
- Storage** : Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. Store in a well-ventilated place.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name                                  | %   | CAS number |
|--|-----|------------|
| 4,4'-methylenediphenyl diisocyanate              | ≤10 | 101-68-8   |
| Isocyanic acid, polymethylenepolyphenylene ester | ≤10 | 9016-87-9  |

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 as hazardous to health or the environment and hence require reporting in this section.**

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

## Section 4. First aid measures

### 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. 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. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. 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** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 4. First aid measures

- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : Extremely flammable aerosol. 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. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : CONTENTS UNDER PRESSURE. May explode when heated.

## 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. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. 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".

## Section 6. Accidental release measures

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### **Methods and materials for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### **Precautions for safe handling**

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid contact during pregnancy or while nursing. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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. Empty containers retain product residue and can be hazardous.

**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** : Store between the following temperatures: 18 to 27°C (64.4 to 80.6°F). Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Protect from sunlight. Store locked up. Eliminate all ignition sources. 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**

## Section 8. Exposure controls/personal protection

| Ingredient name                                  | Exposure limits   |
|--|---|
| 4,4'-methylenediphenyl diisocyanate              | <p><b>ACGIH TLV (United States, 3/2018).</b><br/>TWA: 0.005 ppm 8 hours.</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b><br/>CEIL: 0.02 ppm<br/>CEIL: 0.2 mg/m<sup>3</sup></p> <p><b>NIOSH REL (United States, 10/2016).</b><br/>TWA: 0.05 mg/m<sup>3</sup> 10 hours.<br/>TWA: 0.005 ppm 10 hours.<br/>CEIL: 0.2 mg/m<sup>3</sup> 10 minutes.<br/>CEIL: 0.02 ppm 10 minutes.</p> <p><b>OSHA PEL (United States, 5/2018).</b><br/>CEIL: 0.02 ppm<br/>CEIL: 0.2 mg/m<sup>3</sup></p> |
| Isocyanic acid, polymethylenepolyphenylene ester | None.   |

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### 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. Wear protective gloves: Nitrile gloves.

**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.

## Section 8. Exposure controls/personal protection

- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid. [Aerosol.]
- Color** : Off-white.
- Odor** : Hydrocarbon. [Slight]
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: -68.9°C (-92°F) [Tagliabue.Closed cup ]
- Flammability (solid, gas)** : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.  
CONTENTS UNDER PRESSURE. May explode when heated.
- VOC (less water, less exempt solvents)** : 165 g/l
- Not available.
- Vapor pressure** : 344.9 kPa (2587 mm Hg) [room temperature]
- Relative density** : 1.1
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Aerosol product**
- Type of aerosol** : Foam
- Heat of combustion** : 7.475 kJ/g

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame).
- Incompatible materials** : Reactive or incompatible with the following materials:  
water  
amines
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

## Section 11. Toxicological information

| Product/ingredient name  | Result                | Species | Dose                  | Exposure |
|--|-----------------------|---------|-----------------------|----------|
| 4,4'-methylenediphenyl diisocyanate<br>Isocyanic acid,<br>polymethylenepolyphenylene ester | LD50 Oral             | Rat     | 9200 mg/kg            | -        |
|  | LC50 Inhalation Vapor | Rat     | 490 mg/m <sup>3</sup> | 4 hours  |
|  | LD50 Dermal           | Rabbit  | >9400 mg/kg           | -        |
|  | LD50 Oral             | Rat     | 49 g/kg               | -        |

### Irritation/Corrosion

| Product/ingredient name  | Result                   | Species | Score | Exposure       | Observation |
|--|--------------------------|---------|-------|----------------|-------------|
| 4,4'-methylenediphenyl diisocyanate<br>Isocyanic acid,<br>polymethylenepolyphenylene ester | Eyes - Moderate irritant | Rabbit  | -     | 100 milligrams | -           |
|  | Eyes - Mild irritant     | Rabbit  | -     | 100 milligrams | -           |

### Conclusion/Summary

**Skin** : Causes skin irritation.

**Eyes** : Severely irritating to eyes.

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

| Product/ingredient name                             | OSHA | IARC | NTP |
|---|------|------|-----|
| 4,4'-methylenediphenyl diisocyanate                 | -    | 3    | -   |
| Isocyanic acid,<br>polymethylenepolyphenylene ester | -    | 3    | -   |

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

| Name  | Category   | Route of exposure | Target organs                |
|---|------------|-------------------|------------------------------|
| Titebond X-Treme Multipurpose Triple Expansion Straw Foam Aerosol | Category 3 | Not applicable.   | Respiratory tract irritation |
| 4,4'-methylenediphenyl diisocyanate                               | Category 3 | Not applicable.   | Respiratory tract irritation |
| Isocyanic acid, polymethylenepolyphenylene ester                  | Category 3 | Not applicable.   | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)



## Section 11. Toxicological information

| Name  | Category                 | Route of exposure            | Target organs                                  |
|---|--------------------------|------------------------------|--|
| Titebond X-Treme Multipurpose Triple Expansion Straw Foam Aerosol                       | Category 2               | Skin<br>Inhalation           | skin<br>central nervous system (CNS) and lungs |
| 4,4'-methylenediphenyl diisocyanate<br>Isocyanic acid, polymethylenepolyphenylene ester | Category 2<br>Category 2 | Not determined<br>Inhalation | Not determined<br>respiratory system           |

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

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

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

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

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

## Section 11. Toxicological information

### Potential chronic health effects

Not available.

- General** : May cause damage to organs through prolonged or repeated exposure if inhaled or in contact with skin. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- 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** : May cause harm to breast-fed children.
- Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

| Product/ingredient name             | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------------------|--------------------|-----|-----------|
| 4,4'-methylenediphenyl diisocyanate | 4.51               | 200 | low       |

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

## Section 14. Transport information

|                            | DOT<br>Classification  | TDG<br>Classification  | Mexico<br>Classification   | ADR/RID   | IMDG   | IATA   |
|----------------------------|--|--|--|---|--|--|
| UN number                  | UN1950   | UN1950   | UN1950   | UN1950  | UN1950   | UN1950   |
| UN proper shipping name    | AEROSOLS, flammable  | AEROSOLS, flammable  | AEROSOLS, flammable  | AEROSOLS, flammable   | AEROSOLS, flammable  | AEROSOLS, flammable  |
| Transport hazard class(es) | 2.1<br> | 2.1<br> | 2.1<br> | 2<br> | 2.1<br> | 2.1<br> |
| Packing group              | -  | -  | -  | -   | -  | -  |
| Environmental hazards      | No.  | No.  | No.  | No.   | No.  | No.  |

### Additional information

**DOT Classification** : **Remarks** Limited quantity

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).

**Remarks** Limited quantity

**Mexico Classification** : **Remarks** Limited quantity

**ADR/RID** : **Tunnel code** (D)

**Remarks** Limited quantity

**IMDG** : **Remarks** Limited quantity

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## 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 AEROSOLS - Category 1  
 GASES UNDER PRESSURE - Compressed gas  
 ACUTE TOXICITY (inhalation) - Category 4  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 RESPIRATORY SENSITIZATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 TOXIC TO REPRODUCTION - Effects on or via lactation

## Section 15. Regulatory information

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (skin) (dermal) - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), lungs) (inhalation) - Category 2

### Composition/information on ingredients

| Name   | %   | Classification  |
|--|-----|---|
| 4,4'-methylenediphenyl diisocyanate              | ≤10 | ACUTE TOXICITY (inhalation) - Category 4<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>RESPIRATORY SENSITIZATION - Category 1<br>SKIN SENSITIZATION - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  |
| Isocyanic acid, polymethylenepolyphenylene ester | ≤10 | ACUTE TOXICITY (inhalation) - Category 4<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>RESPIRATORY SENSITIZATION - Category 1<br>SKIN SENSITIZATION - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory system) (inhalation) - Category 2 |
| Isobutane  | ≤10 | FLAMMABLE GASES - Category 1<br>GASES UNDER PRESSURE - Compressed gas   |
| dimethyl ether                                   | ≤10 | FLAMMABLE GASES - Category 1<br>GASES UNDER PRESSURE - Liquefied gas  |
| propane  | ≤5  | FLAMMABLE GASES - Category 1<br>GASES UNDER PRESSURE - Compressed gas   |

### SARA 313

|  | Product name                                     | CAS number | %   |
|--|--|------------|-----|
| <b>Form R - Reporting requirements</b> | 4,4'-methylenediphenyl diisocyanate              | 101-68-8   | ≤10 |
|  | Isocyanic acid, polymethylenepolyphenylene ester | 9016-87-9  | ≤10 |
| <b>Supplier notification</b>           | 4,4'-methylenediphenyl diisocyanate              | 101-68-8   | ≤10 |
|  | Isocyanic acid, polymethylenepolyphenylene ester | 9016-87-9  | ≤10 |

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: METHYLENE BISPHENYL ISOCYANATE; DIPHENYLMETHANE DIISOCYANATE; MDI; METHYL ETHER; DIMETHYL ETHER; ISOBUTANE; PROPANE

#### New York

: The following components are listed: Methylene diphenyl diisocyanate

#### New Jersey

: The following components are listed: POLYCHLORINATED ALKANES; ALKANES, C10-12,CHLORO; METHYLENE BISPHENYL ISOCYANATE; BENZENE, 1,1'-METHYLENEBIS[4-ISOCYANATO-; METHYLENE DIPHENYL DIISOCYANATE (POLYMERIC); ISOCYANIC ACID, POLYMETHYLENENEPOLYPHENYLENE ESTER; DIMETHYL ETHER; METHANE, OXYBIS-; Isobutane; PROPANE, 2-METHYL-; PROPANE

## Section 15. Regulatory information

**Pennsylvania** : The following components are listed: BENZENE, 1,1'-METHYLENEBIS [4-ISOCYANATO-; METHANE, OXYBIS-; PROPANE, 2-METHYL-; PROPANE

### International regulations

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

Not listed.

#### Montreal Protocol (Annexes A, B, C, E)

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

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 listed or exempted.

## Section 16. Other information

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

|                  |   |   |
|------------------|---|---|
| Health           | * | 4 |
| Flammability     |   | 4 |
| Physical hazards |   | 3 |
|                  |   |   |

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The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

## Section 16. Other information

### Procedure used to derive the classification

| Classification   | Justification         |
|--|-----------------------|
| FLAMMABLE AEROSOLS - Category 1  | Expert judgment       |
| GASES UNDER PRESSURE - Compressed gas  | Expert judgment       |
| ACUTE TOXICITY (inhalation) - Category 4   | On basis of test data |
| SKIN IRRITATION - Category 2   | Expert judgment       |
| EYE IRRITATION - Category 2A   | Expert judgment       |
| RESPIRATORY SENSITIZATION - Category 1   | Expert judgment       |
| SKIN SENSITIZATION - Category 1  | Expert judgment       |
| TOXIC TO REPRODUCTION - Effects on or via lactation  | Expert judgment       |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3                       | Expert judgment       |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (skin) (dermal) - Category 2                                    | Expert judgment       |
| SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS), lungs) (inhalation) - Category 2 | Expert judgment       |

### History

|                                       |              |
|---------------------------------------|--------------|
| <b>Date of printing</b>               | : 10/25/2018 |
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|                             |  |
|-----------------------------|--|
| <b>Key to abbreviations</b> | : ATE = Acute Toxicity Estimate<br>BCF = Bioconcentration Factor<br>GHS = Globally Harmonized System of Classification and Labelling of Chemicals<br>IATA = International Air Transport Association<br>IBC = Intermediate Bulk Container<br>IMDG = International Maritime Dangerous Goods<br>LogPow = logarithm of the octanol/water partition coefficient<br>MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)<br>UN = United Nations |
|-----------------------------|--|

|                   |                  |
|-------------------|------------------|
| <b>References</b> | : Not available. |
|-------------------|------------------|

☑ Indicates information that has changed from previously issued version.

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