

FENNER  DUNLOP
ENGINEERED CONVEYOR SOLUTIONS
SAFETY DATA SHEET

P-1940 - One Part Industrial Adhesive

Section 1. Identification

GHS product identifier : P-1940 - One Part Industrial Adhesive
Other means of identification : NK
Product code : P-1940
Product type : Liquid.

Identified uses : Adhesive.

Supplier/Manufacturer : Fenner Dunlop
146 South Westwood
Toledo, OH 43607
Tel: (419) 534 5300 ext. 324
Fax: (419) 531-6284
Email: Dan.hoca@fennerdunlop.com

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3877 (24/7)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2B
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
GERM CELL MUTAGENICITY - Category 2
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Danger



Section 2. Hazards identification

- Hazard statements**
- : H226 - Flammable liquid and vapor.
 - H332 - Harmful if inhaled.
 - H319 - Causes serious eye irritation.
 - H315 - Causes skin irritation.
 - H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H317 - May cause an allergic skin reaction.
 - H350 - May cause cancer.
 - H341 - Suspected of causing genetic defects.
 - H336 - May cause drowsiness and dizziness.
 - H373 - May cause damage to organs through prolonged or repeated exposure. (hearing organs)
 - H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

- : P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
- P284 - Wear respiratory protection.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P233 - Keep container tightly closed.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P260 - Do not breathe vapor.
- P264 - Wash hands thoroughly after handling.
- P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.

Response

- : P314 - Get medical attention if you feel unwell.
- P308 + P313 - IF exposed or concerned: Get medical attention.
- P304 + P341 (OSHA) + P312 - 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.
- P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician.
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse.
- P333 + P313 - If skin irritation or rash occurs: Get medical attention.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical attention.

Storage

- : P405 - Store locked up.
- P403 - Store in a well-ventilated place.
- P235 - Keep cool.

Disposal

- : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC)

Physical hazards not otherwise classified (PHNOC)

- : None known.

Section 2. Hazards identification

Health hazards not otherwise classified (HHNOC) : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : NK

CAS number/other identifiers

CAS number : Not applicable.

Product code : P-1940

| Ingredient name | % | CAS number |
|-------------------------------------|---------|------------|
| Trichloroethylene | 30 - 60 | 79-01-6 |
| Xylene | 30 - 60 | 1330-20-7 |
| Ethylbenzene | 5 - 10 | 100-41-4 |
| Carbon black | 5 - 10 | 1333-86-4 |
| 1,2-Epoxybutane | 0.1 - 1 | 106-88-7 |
| 4,4'-Methylenediphenyl diisocyanate | 0.1 - 1 | 101-68-8 |
| Methylenediphenyl diisocyanate | 0.1 - 1 | 26447-40-5 |

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 20 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. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention.
- Ingestion** : Wash out mouth with water. 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. 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.

Section 4. First aid measures

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No known significant effects or critical hazards.

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 dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet or water-based fire extinguishers.

Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Flammable liquid and vapor. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. 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
nitrogen oxides
halogenated compounds
carbonyl halides
- Special protective actions for fire-fighters** : 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

- 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. Avoid exposure - obtain special instructions before use. 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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities : 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.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

| Ingredient name | Exposure limits |
|-------------------|---|
| Xylene | <p>ACGIH TLV (United States, 3/2015). STEL: 651 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 434 mg/m³ 8 hours. TWA: 100 ppm 8 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours.</p> |
| Trichloroethylene | <p>OSHA PEL Z2 (United States, 2/2013). AMP: 300 ppm 5 minutes. CEIL: 200 ppm TWA: 100 ppm 8 hours.</p> <p>ACGIH TLV (United States, 3/2015). STEL: 25 ppm 15 minutes. TWA: 10 ppm 8 hours.</p> |
| Carbon black | <p>ACGIH TLV (United States, 3/2015). TWA: 3 mg/m³ 8 hours. Form: Inhalable fraction</p> <p>NIOSH REL (United States, 10/2013). TWA: 3.5 mg/m³ 10 hours. TWA: 0.1 mg of PAHs/cm³ 10 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 3.5 mg/m³ 8 hours.</p> |
| Ethylbenzene | <p>ACGIH TLV (United States, 3/2015).</p> |



Section 8. Exposure controls/personal protection

| | |
|-------------------------------------|--|
| 4,4'-Methylenediphenyl diisocyanate | <p>TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2013). STEL: 545 mg/m³ 15 minutes. STEL: 125 ppm 15 minutes. TWA: 435 mg/m³ 10 hours. TWA: 100 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 435 mg/m³ 8 hours. TWA: 100 ppm 8 hours. ACGIH TLV (United States, 3/2015). TWA: 0.005 ppm 8 hours. NIOSH REL (United States, 10/2013). CEIL: 0.2 mg/m³ 10 minutes. CEIL: 0.02 ppm 10 minutes. TWA: 0.05 mg/m³ 10 hours. TWA: 0.005 ppm 10 hours. OSHA PEL (United States, 2/2013). CEIL: 0.2 mg/m³ CEIL: 0.02 ppm</p> |
| 1,2-Epoxybutane | <p>AIHA WEEL (United States, 10/2011). TWA: 2 ppm 8 hours.</p> |

Canada

| <u>Occupational exposure limits</u> | | <u>TWA (8 hours)</u> | | | <u>STEL (15 mins)</u> | | | <u>Ceiling</u> | | | |
|-------------------------------------|------------------|----------------------|-------------------------|--------------|-----------------------|-------------------------|--------------|----------------|-------------------------|--------------|------------------|
| <u>Ingredient</u> | <u>List name</u> | <u>ppm</u> | <u>mg/m³</u> | <u>Other</u> | <u>ppm</u> | <u>mg/m³</u> | <u>Other</u> | <u>ppm</u> | <u>mg/m³</u> | <u>Other</u> | <u>Notations</u> |
| Trichloroethylene | US ACGIH 3/2015 | 10 | - | - | 25 | - | - | - | - | - | |
| | AB 4/2009 | 50 | 269 | - | 100 | 537 | - | - | - | - | |
| | BC 2/2015 | 10 | - | - | 25 | - | - | - | - | - | |
| | ON 7/2015 | 10 | - | - | 25 | - | - | - | - | - | |
| | QC 1/2014 | 50 | 269 | - | 200 | 1070 | - | - | - | - | |
| Xylene | US ACGIH 3/2015 | 100 | 434 | - | 150 | 651 | - | - | - | - | |
| | AB 4/2009 | 100 | 434 | - | 150 | 651 | - | - | - | - | |
| | BC 2/2015 | 100 | - | - | 150 | - | - | - | - | - | |
| | ON 7/2015 | 100 | 434 | - | 150 | 651 | - | - | - | - | |
| | QC 1/2014 | 100 | 434 | - | 150 | 651 | - | - | - | - | |
| Ethylbenzene | US ACGIH 3/2015 | 20 | - | - | - | - | - | - | - | - | |
| | AB 4/2009 | 100 | 434 | - | 125 | 543 | - | - | - | - | |
| | BC 2/2015 | 20 | - | - | - | - | - | - | - | - | |
| | ON 7/2015 | 20 | - | - | - | - | - | - | - | - | |
| | QC 1/2014 | 100 | 434 | - | 125 | 543 | - | - | - | - | |
| Carbon black | US ACGIH 3/2015 | - | 3 | - | - | - | - | - | - | - | [a] |
| | AB 4/2009 | - | 3.5 | - | - | - | - | - | - | - | |
| | BC 2/2015 | - | 3 | - | - | - | - | - | - | - | [b] |
| | ON 7/2015 | - | 3 | - | - | - | - | - | - | - | [a] |
| | QC 1/2014 | - | 3.5 | - | - | - | - | - | - | - | |
| 1,2-Epoxybutane | US AIHA 10/2011 | 2 | - | - | - | - | - | - | - | - | |
| 4,4'-Methylenediphenyl diisocyanate | US ACGIH 3/2015 | 0.005 | - | - | - | - | - | - | - | - | |
| | AB 4/2009 | 0.005 | 0.05 | - | - | - | - | - | - | - | |
| | BC 2/2015 | 0.005 | - | - | - | - | - | 0.01 | - | - | [1][3] |
| | ON 7/2015 | 0.005 | - | - | - | - | - | - | - | - | |
| | QC 1/2014 | 0.005 | 0.051 | - | - | - | - | - | - | - | [3] |
| Methylenediphenyl diisocyanate | BC 2/2015 | 0.005 | - | - | - | - | - | 0.01 | - | - | |
| | ON 7/2015 | 0.005 | - | - | - | - | - | 0.02 | - | - | |

[1]Absorbed through skin. [3]Skin sensitization

Form: [a]Inhalable fraction [b]Inhalable

Mexico

Section 8. Exposure controls/personal protection

| Ingredient name | Exposure limits |
|-------------------------------------|--|
| Trichloroethylene | NOM-010-STPS (Mexico, 9/2000). LMPE-CT: 1080 mg/m ³ 15 minutes. LMPE-CT: 200 ppm 15 minutes. LMPE-PPT: 535 mg/m ³ 8 hours. LMPE-PPT: 100 ppm 8 hours. |
| Xylene | NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 435 mg/m ³ 8 hours. LMPE-PPT: 100 ppm 8 hours. LMPE-CT: 655 mg/m ³ 15 minutes. LMPE-CT: 150 ppm 15 minutes. |
| Ethylbenzene | NOM-010-STPS (Mexico, 9/2000). LMPE-CT: 545 mg/m ³ 15 minutes. LMPE-CT: 125 ppm 15 minutes. LMPE-PPT: 435 mg/m ³ 8 hours. LMPE-PPT: 100 ppm 8 hours. |
| Carbon black | NOM-010-STPS (Mexico, 9/2000). LMPE-CT: 7 mg/m ³ 15 minutes. Form: smoke LMPE-PPT: 3.5 mg/m ³ 8 hours. Form: smoke |
| 4,4'-Methylenediphenyl diisocyanate | NOM-010-STPS (Mexico, 9/2000). LMPE-PPT: 0.051 mg/m ³ 8 hours. LMPE-PPT: 0.005 ppm 8 hours. |

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.

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. 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. Recommended: Safety glasses with side shields.

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. Recommended: Gloves: Neoprene, PVC, vinyl or rubber.

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 : Use a properly fitted, air-purifying or supplied air 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.

Section 9. Physical and chemical properties

Appearance

| | |
|---|---|
| Physical state | : Liquid. |
| Color | : Black. |
| Odor | : Solvent. |
| Odor threshold | : Not available. |
| pH | : Not available. |
| Melting point | : Not available. |
| Boiling point | : 62.2 to 138.9°C (144 to 282°F) |
| Flash point | : Closed cup: 25°C (77°F) [Setaflash.] |
| Evaporation rate | : <1 (Butyl acetate = 1) |
| Flammability (solid, gas) | : Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge. Highly flammable in the presence of the following materials or conditions: heat. |
| Lower and upper explosive (flammable) limits | : Lower: 1% Upper: 44.8% |
| Vapor pressure | : Not available. |
| Vapor density | : >1 [Air = 1] |
| Relative density | : 1.07 |
| Solubility | : Insoluble in water. |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : Not available. |
| Decomposition temperature | : Not available. |
| Viscosity | : Not available. |
| Volatility | : 74.3% (v/v) |

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). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. |
| Incompatible materials | : Reactive or incompatible with the following materials: amines, acids, water, hydroxyl, zinc, caustics, aluminum. |
| 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

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------------------|-----------------------|---------|--------------------------|----------|
| Trichloroethylene | LC50 Inhalation Vapor | Rat | 140700 mg/m ³ | 1 hours |
| | LD50 Dermal | Rabbit | >20 g/kg | - |
| Xylene | LD50 Oral | Rat | 4920 mg/kg | - |
| | LC50 Inhalation Gas. | Rat | 5000 ppm | 4 hours |
| Ethylbenzene | LD50 Oral | Rat | 4300 mg/kg | - |
| | LD50 Dermal | Rabbit | >5000 mg/kg | - |
| Carbon black | LD50 Oral | Rat | 3500 mg/kg | - |
| | LD50 Oral | Rat | >15400 mg/kg | - |
| 1,2-Epoxybutane | LC50 Inhalation Vapor | Rat | 6300 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 500 mg/kg | - |
| 4,4'-Methylenediphenyl diisocyanate | LD50 Oral | Rat | 9200 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------------------|--------------------------|---------|-------|-----------------|-------------|
| Trichloroethylene | Eyes - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 2 mg | - |
| Xylene | Eyes - Mild irritant | Rabbit | - | 87 mg | - |
| | Eyes - Severe irritant | Rabbit | - | 24 hours 5 mg | - |
| | Skin - Mild irritant | Rat | - | 8 hours 60 µL | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 500 mg | - |
| Ethylbenzene | Skin - Moderate irritant | Rabbit | - | 100% | - |
| | Eyes - Severe irritant | Rabbit | - | 500 mg | - |
| 1,2-Epoxybutane | Skin - Mild irritant | Rabbit | - | 24 hours 15 mg | - |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 mg | - |
| 4,4'-Methylenediphenyl diisocyanate | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 mg | - |

Sensitization

There is no data available.

Carcinogenicity

Classification

| Product/ingredient name | OSHA | IARC | NTP | ACGIH | EPA | NIOSH |
|-------------------------------------|------|------|--|-------|-----|-------|
| Trichloroethylene | - | 1 | Reasonably anticipated to be a human carcinogen. | A2 | - | + |
| Xylene | - | 3 | - | A4 | - | - |
| Ethylbenzene | - | 2B | - | A3 | - | None. |
| Carbon black | - | 2B | - | A3 | - | + |
| 1,2-Epoxybutane | - | 2B | - | - | - | - |
| 4,4'-Methylenediphenyl diisocyanate | - | 3 | - | - | - | - |

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|-------------------------------------|------------|-------------------|------------------------------|
| Trichloroethylene | Category 3 | Not applicable. | Narcotic effects |
| 1,2-Epoxybutane | Category 3 | Not applicable. | Respiratory tract irritation |
| 4,4'-Methylenediphenyl diisocyanate | Category 3 | Not applicable. | Respiratory tract irritation |
| Methylenediphenyl diisocyanate | Category 3 | Not applicable. | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|-------------------------------------|------------|-------------------|----------------|
| 4,4'-Methylenediphenyl diisocyanate | Category 2 | Not determined | Not determined |
| Methylenediphenyl diisocyanate | Category 2 | Not determined | Not determined |

Aspiration hazard

| Name | Result |
|--------------|--------------------------------|
| Ethylbenzene | ASPIRATION HAZARD - Category 1 |

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

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:
wheezing and breathing difficulties
asthma
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No known significant effects or critical hazards.

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

Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Potential chronic health effects

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** : Suspected of causing genetic defects.
- 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.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|------------------------------|--------------|
| Oral | 4621 mg/kg |
| Dermal | 2763.4 mg/kg |
| Inhalation (gases) | 12875 ppm |
| Inhalation (vapors) | 96.46 mg/L |
| Inhalation (dusts and mists) | 77.25 mg/L |

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------------------|-------------------------------------|--|----------|
| Trichloroethylene | Acute EC50 95000 µg/L Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute EC50 36.5 mg/L Fresh water | Algae - Chlamydomonas reinhardtii - Exponential growth phase | 72 hours |
| | Acute LC50 20 mg/L Marine water | Crustaceans - Elminius modestus | 48 hours |
| | Acute LC50 39000 µg/L Fresh water | Daphnia - Daphnia pulex | 48 hours |
| | Acute LC50 3100 µg/L Fresh water | Fish - Jordanella floridae - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours |
| Xylene | Chronic EC10 12.3 mg/L Fresh water | Algae - Chlamydomonas reinhardtii - Exponential growth phase | 72 hours |
| | Chronic NOEC 1.384 mg/L Fresh water | Daphnia - Daphnia magna | 21 days |
| | Acute IC50 10 mg/L | Algae | 72 hours |
| | Acute LC50 8500 µg/L Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| | Acute LC50 13400 µg/L Fresh water | Fish - Pimephales promelas | 96 hours |
| Ethylbenzene | Acute EC50 4600 µg/L Fresh water | Algae - Pseudokirchneriella subcapitata | 72 hours |
| | Acute EC50 3600 µg/L Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute EC50 2970 µg/L Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 5200 µg/L Marine water | Crustaceans - Americamysis bahia | 48 hours |
| | Acute LC50 4200 µg/L Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| 4,4'-Methylenediphenyl diisocyanate | Chronic NOEC 1000 µg/L Fresh water | Algae - Pseudokirchneriella subcapitata | 96 hours |
| | Acute IC50 1.5 mg/L | Algae | 72 hours |

Persistence and degradability

There is no data available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------------------|--------------------|-------------|-----------|
| Trichloroethylene | 2.53 | 17 | low |
| Xylene | 3.12 | 8.1 to 25.9 | low |
| Ethylbenzene | 3.6 | - | low |
| 1,2-Epoxybutane | 0.68 | - | low |
| 4,4'-Methylenediphenyl diisocyanate | 4.51 | 200 | low |
| Methylenediphenyl diisocyanate | 4.51 | 200 | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : There is no data 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 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 empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. 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.

United States - RCRA Toxic hazardous waste "U" List

| Ingredient | CAS # | Status | Reference number |
|-------------------|-----------|--------|------------------|
| Trichloroethylene | 79-01-6 | Listed | U228 |
| Xylene | 1330-20-7 | Listed | U239 |

Section 14. Transport information

| | DOT | TDG / NOM-003-SCT | IMDG | IATA |
|-----------------------------------|--|--|---|--|
| UN number | UN1133 | UN1133 | UN1133 | UN1133 |
| UN proper shipping name | ADHESIVES (Containing a flammable liquid) RQ (Trichloroethylene, Xylene) | ADHESIVES (Containing a flammable liquid) | ADHESIVES (Containing a flammable liquid) | ADHESIVES (Containing a flammable liquid) |
| Transport hazard class(es) | 3  | 3  | 3  | 3  |
| Packing group | III | III | III | III |
| Environmental hazards | No. | No. | No. | No. |
| Additional information | Reportable quantity 250 lbs / 113.5 kg [28.022 gal / 106.07 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. | - | Emergency schedules (EmS) F-E, S-D | - |

AERG : 128

DOT-RQ Details : Trichloroethylene 100 lbs / 45.4 kg [8.2147 gal / 31.096 L]
Xylene 100 lbs / 45.4 kg [13.946 gal / 52.791 L]

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 14. Transport information

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) PAIR: 4,4'-Methylenediphenyl diisocyanate; Methylenediphenyl diisocyanate
TSCA 8(c) calls for record of SAR: 4,4'-Methylenediphenyl diisocyanate; Methylenediphenyl diisocyanate
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Water Act (CWA) 307: Trichloroethylene; Ethylbenzene; 4,4'-Methylenediphenyl diisocyanate
Clean Water Act (CWA) 311: Trichloroethylene; Xylene; Ethylbenzene

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|-------------------------------------|---------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Trichloroethylene | 30 - 60 | No. | No. | No. | Yes. | Yes. |
| Xylene | 30 - 60 | Yes. | No. | No. | Yes. | No. |
| Ethylbenzene | 5 - 10 | Yes. | No. | No. | Yes. | Yes. |
| Carbon black | 5 - 10 | No. | No. | No. | No. | Yes. |
| 1,2-Epoxybutane | 0.1 - 1 | Yes. | No. | No. | Yes. | Yes. |
| 4,4'-Methylenediphenyl diisocyanate | 0.1 - 1 | No. | No. | No. | Yes. | Yes. |
| Methylenediphenyl diisocyanate | 0.1 - 1 | No. | No. | No. | Yes. | Yes. |

SARA 313



Section 15. Regulatory information

| | Product name | CAS number | % |
|--|-------------------------------------|------------|---------|
| Form R - Reporting requirements | Trichloroethylene | 79-01-6 | 30 - 60 |
| | Xylene | 1330-20-7 | 30 - 60 |
| | Ethylbenzene | 100-41-4 | 5 - 10 |
| | 1,2-Epoxybutane | 106-88-7 | 0.1 - 1 |
| | 4,4'-Methylenediphenyl diisocyanate | 101-68-8 | 0.1 - 1 |
| Supplier notification | Trichloroethylene | 79-01-6 | 30 - 60 |
| | Xylene | 1330-20-7 | 30 - 60 |
| | Ethylbenzene | 100-41-4 | 5 - 10 |
| | 1,2-Epoxybutane | 106-88-7 | 0.1 - 1 |
| | 4,4'-Methylenediphenyl diisocyanate | 101-68-8 | 0.1 - 1 |

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: Trichloroethylene; Xylene; Ethylbenzene; Carbon black; 1,2-Epoxybutane; 4,4'-Methylenediphenyl diisocyanate
- New York** : The following components are listed: Trichloroethylene; Xylene; Ethylbenzene; 1, 2-Epoxybutane; 4,4'-Methylenediphenyl diisocyanate
- New Jersey** : The following components are listed: Trichloroethylene; Xylene; Ethylbenzene; Carbon black; 1,2-Epoxybutane; 4,4'-Methylenediphenyl diisocyanate; Methylenediphenyl diisocyanate
- Pennsylvania** : The following components are listed: Trichloroethylene; Xylene; Ethylbenzene; Carbon black; 1,2-Epoxybutane; 4,4'-Methylenediphenyl diisocyanate

California Prop. 65

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

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|-------------------|--------|--------------|---|---------------------------------|
| Trichloroethylene | Yes. | Yes. | 14 µg/day (ingestion) 50 µg/day (inhalation) | No. |
| Ethylbenzene | Yes. | No. | 41 µg/day (ingestion) 54 µg/day (inhalation) | No. |
| Carbon black | Yes. | No. | No. | No. |

Canada

Canadian lists

- Canadian NPRI** : The following components are listed: Trichloroethylene; Xylene; Ethylbenzene; 1, 2-Epoxybutane; 4,4'-Methylenediphenyl diisocyanate
- CEPA Toxic substances** : The following components are listed: Trichloroethylene; 1,2-Epoxybutane
- Canada inventory** : Not determined.

International lists

National inventory

- Australia** : All components are listed or exempted.
- China** : All components are listed or exempted.
- Europe** : All components are listed or exempted.
- Japan** : All components are listed or exempted.
- Malaysia** : Not determined.
- New Zealand** : All components are listed or exempted.
- Philippines** : All components are listed or exempted.
- Republic of Korea** : All components are listed or exempted.

Section 15. Regulatory information

Taiwan : Not determined.

Section 16. Other information

History

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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.

