POWERply® Standard Cold Adhesive
Cold Applied Adhesive For Modified Bitumen Roof Systems

Composition: POWERply® Standard Cold Adhesive is an asbestos-free, fibrated, cold-process asphalt adhesive for modified bitumen membrane systems.

Basic Uses: POWERply Standard Cold Adhesive is designed for application as a cold process interply and aggregate-surfacing adhesive for POWERply roof systems over approved roof insulation and base sheets.

Refer to UL Roofing Materials & Systems Directory and/or FM Approvals RoofNav® for applicable roof system configurations.

Limitations:
• Not intended to perform under ponding conditions.
  Positive drainage required.
• Not to be used as an insulation adhesive.
• Not to be exposed to solvents, oils, or other contaminants harmful to asphaltic materials.
• Not intended for use in adhering cold applied BUR and MB systems directly to isocyanurate insulation; the use of an approved cover board over isocyanurate insulation is recommended.
• Not intended for use as a smooth roof coating.
• Not for use over expanded polystyrene (EPS) or EPS composite insulations installed in any configuration unless EPS is encapsulated within lightweight insulating cellular concrete.

<table>
<thead>
<tr>
<th>Product Advantages</th>
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<tbody>
<tr>
<td>Features</td>
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<tr>
<td>Cold-applied</td>
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<tr>
<td>Low odor/asbestos free</td>
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<tr>
<td>High performance adhesive</td>
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<tr>
<td>Versatile/flexible application</td>
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</tbody>
</table>

Grade: Spray/brush/squeegee. Can be heated to facilitate application by using an oil-jacketed heat exchanger.

Equipment:
Spray:
Pump: Pneumatic or hydraulic pump with a minimum 2200 psi material output pressure. Output flow rate must be 3 GPM (gallons per minute) or greater for efficient production rates.

Spray tip/Fluid hose: Reversible spray tip with 0.052" to 0.072" orifice and a 40° to 60° spray fan. Material fluid hose must be properly rated for the maximum working pressure of the pump being used.

Squeegee: Triangular notched to provide 30-35mil thick uniform application.

Clean-Up: Mineral spirits.

Packaging: Available in 5 (19L) or 52 (196.8L) gallon containers.

Storage Life: One year in unopened containers.

General Application Data: Roof replacement usually involves more complexities than new construction roofing. Often encountered are situations such as rusted/deteriorated decks, rotted wood components, rooftop equipment which cannot be moved or shut down, and numerous other conditions.

The following application information is designed to serve as a general guide. Your local Tremco Representative will prepare detailed specifications based upon your roof's conditions.

Structural Decks: Must be properly designed and structurally sound.

Drainage: Ponding conditions are unacceptable and will adversely affect performance of any roofing system. If positive drainage does not exist, water removal must be facilitated by lowering drains and/or installing additional drains, tapered insulation, or a Tremco approved lightweight concrete slope system.

Insulation: Insulation must be dry and kept dry. No more insulation shall be installed than can be covered that day.
Acceptable Insulations:

<table>
<thead>
<tr>
<th>Type</th>
<th>Minimum Thickness*</th>
<th>Facer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood Fiber</td>
<td>1/2&quot; (13mm)</td>
<td>Treated</td>
</tr>
<tr>
<td>Gypsum</td>
<td>1/4&quot; (6mm)</td>
<td>Treated fiberglass or compressed surface</td>
</tr>
</tbody>
</table>

Maximum size: 4’ x 8’ (1219mm x 2438mm)

* Minimum thickness for application of POWERply Standard Cold Adhesive. Follow insulation manufacturer’s instructions to obtain minimum thickness for spanning metal deck ribs.

Installation Procedures: According to particular project specifications, prepare surface to be covered:

- Replace areas of wet insulation, deteriorated deck, and wood components.
- Install roof insulation or base sheet.

Plan placement of POWERply Roof System to ensure that water flows or away, but not against exposed edges. Starting a low point of roof, embed asphalt coated base sheet in a uniform continuous application of POWERply Standard Cold Adhesive. Apply POWERply membranes in a fresh application of POWERply Standard Cold Adhesive.

Lap 4" (100mm) minimum; end laps 6", (150mm) minimum. Offset laps from base sheet laps. Stagger end laps 36" (approx. 1m) minimum. Apply pressure to end lap areas to assure positive adhesion.

To assure complete and uniform adhesion adhesive should exude past lap edges.

Coverage: 2 gals/SQ (0.8 L/m²) per ply.

SURFACING OPTIONS

Gravel: Apply POWERply Standard Cold Adhesive over roof surface at 5 gal/100 ft² (2.0 L/m²). Immediately broadcast 400-500 lb/100 ft² (19.4-24.4 kg/m²) of new, clean aggregate into adhesive. Aggregate shall conform to ASTM D 1863-93.

Roof Coatings: Allow for a 28 day minimum cure period for POWERply granule surfaced membranes that are adhered in POWERply Standard Cold Adhesive prior to the application of roof coating, Alumination 301, ICE Coating, Tremco T24 Coating or Solargard 6083 over the top of POWERply granule surfaced membranes.

Precautions: Users must read container labels and Material Safety Date Sheets for health and safety precautions prior to use.

Availability and Cost: Contact your local Tremco Roofing Representative for pricing and availability. For the name and number of your Representative, call the Roofing Division at 216/292-5000.

Maintenance: Your local Tremco Roofing Representative can provide you with effective maintenance procedures which may vary, depending upon specific conditions. Periodic inspections, early repairs and preventive maintenance are all part of a sound roof program.

Guarantee/Warranty: Tremco Incorporated warrants POWERply Standard Cold Adhesive to be free of defects and to meet published physical properties when tested according to ASTM and Tremco standards. Under this warranty, any POWERply Standard Cold Adhesive that is proved to be defective when applied in accordance to our written instructions, and in applications recommended by Tremco as suitable for this product will be replaced with like product at no charge. THIS IS BUYER’S SOLE AND EXCLUSIVE REMEDY.

All claims concerning product defects must be made in writing within twelve (12) months of shipment. The absence of such claims in writing during this period will constitute a waiver of all claims with respect to such product.

This warranty shall be IN LIEU OF ANY other warranty, express or implied, including but not limited to, any implied warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Technical Services: Your local Tremco Representative, working with the Technical Service Staff, can help analyze conditions and needs to develop recommendations for special applications. The services of the Tremco Research Center, which has earned a unique reputation in weatherproofing technology, complement and extend the services of the Tremco Technical Service staff.

Statement of Policy and Responsibility: Tremco takes responsibility for furnishing quality materials and for providing specifications and recommendations for their proper installation. As neither Tremco itself nor its Representatives practice architecture or engineering, Tremco offers no opinion on, and expressly disclaims any responsibility for the soundness of any structure on which its products may be applied. If questions arise as to the soundness of a structure or its ability to support a planned installation properly, the Owner should obtain the opinion of competent structural engineers before proceeding. Tremco accepts no liability for any structural failure or for resultant damages, and no Tremco Representative is authorized to vary this disclaimer.
SAFETY DATA SHEET

1. Identification

Material name: POWERPLY STANDARD COLD ADHESIVE 5 GL
Material: 365170 805

Recommended use and restriction on use
  Recommended use: Adhesive
  Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S. Roofing
3735 Green Road
Cleveland OH 44122
US

Contact person: EH&S Department
Telephone: 216-292-5000
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6866 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards
  Flammable liquids

Health Hazards
  Serious Eye Damage/Eye Irritation
  Germ Cell Mutagenicity
  Carcinogenicity

Unknown toxicity - Health
  Acute toxicity, oral 38.33 %
  Acute toxicity, dermal 38.61 %
  Acute toxicity, inhalation, vapor 99.23 %
  Acute toxicity, inhalation, dust or mist 100 %

Environmental Hazards
  Acute hazards to the aquatic environment

Unknown toxicity - Environment
  Acute hazards to the aquatic environment 96.28 %
  Chronic hazards to the aquatic environment 100 %

Label Elements

Hazard Symbol:
Signal Word: Danger


Precautionary Statement: Prevention:
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response:
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 advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If exposed or concerned: Get medical advice/attention. In case of fire: Use ... to extinguish.

Storage: Store in well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>8052-42-4</td>
<td>40 - 70%</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>8052-41-3</td>
<td>15 - 40%</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>1317-65-3</td>
<td>7 - 13%</td>
</tr>
<tr>
<td>Ingredient</td>
<td>CAS Number</td>
<td>Concentration</td>
</tr>
<tr>
<td>------------------------------------</td>
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</tr>
<tr>
<td>Calcium carbonate</td>
<td>471-34-1</td>
<td>1 - 5%</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>95-63-6</td>
<td>0.5 - 1.5%</td>
</tr>
<tr>
<td>Nonane</td>
<td>111-84-2</td>
<td>0.5 - 1.5%</td>
</tr>
<tr>
<td>Cellulose</td>
<td>9004-34-6</td>
<td>0.5 - 1.5%</td>
</tr>
<tr>
<td>Magnesite</td>
<td>546-03-0</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>14508-60-7</td>
<td>0.1 - 1%</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>0.1 - 1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/... if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:

Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical:

Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:

No data available.
Special protective equipment for fire-fighters:
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind.

Methods and material for containment and cleaning up:
Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures:
In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions:
Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:
Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities:
Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt - Inhalable fraction, - as benzene solubles</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td>US, ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>TWA</td>
<td>100 ppm</td>
<td>US, ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>500 ppm 2,900 mg/m³</td>
<td>US, OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>PEL</td>
<td>15 mg/m³</td>
<td>US, OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) -</td>
<td>PEL</td>
<td>5 mg/m³</td>
<td>US, OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</td>
</tr>
<tr>
<td>Substance</td>
<td>PEL</td>
<td>REL</td>
<td>STEL</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
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</tr>
<tr>
<td>Calcium carbonate - Total dust.</td>
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<tr>
<td>Calcium carbonate - Respirable fraction.</td>
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</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
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<tr>
<td>Nonane</td>
<td></td>
<td></td>
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<tr>
<td>Cellulose</td>
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<td></td>
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<tr>
<td>Cellulose - Total dust.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cellulose - Respirable fraction.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnesite - Total dust.</td>
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<td></td>
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</tr>
<tr>
<td>Magnesite - Respirable fraction.</td>
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<td></td>
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</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.</td>
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</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Respirable.</td>
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</tr>
<tr>
<td>Crystalline Silica (Quartz)/ Silica Sand - Total dust.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
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</tbody>
</table>

Specific values and limits are provided in the table, along with references to the sources of these values.
<table>
<thead>
<tr>
<th>Chemical name</th>
<th>type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt - Aerosol, inhalable, - as benzene solubles</td>
<td>TWA</td>
<td>0.5 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Asphalt - Inhalable fraction, - as benzene solubles</td>
<td>TWAEV</td>
<td>0.5 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Asphalt - Fume.</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>STEL</td>
<td>580 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>290 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Substrate</td>
<td>Exposure Parameter</td>
<td>Concentration</td>
<td>Source</td>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>TWA</td>
<td>100 ppm</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11/2010)</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>TWA</td>
<td>100 ppm 525 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12/2008)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust</td>
<td>STEL</td>
<td>20 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 266/97, as amended) (07/2007)</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 266/97, as amended) (07/2007)</td>
</tr>
<tr>
<td>Substance</td>
<td>Measurement Unit</td>
<td>Value</td>
<td>Source</td>
</tr>
<tr>
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</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Respirable fraction.</td>
<td>TWA</td>
<td>3 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone) - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
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<td>TWA</td>
<td>3 mg/m³</td>
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<td>Calcium carbonate - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
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<td>Calcium carbonate - Total dust.</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>TWA</td>
<td>25 ppm</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<tr>
<td>1,2,4-Trimethylbenzene</td>
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<td>TWA</td>
<td>25 ppm</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable fraction.</td>
<td>TWA</td>
<td>0.025 mg/m³</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable.</td>
<td>TWAEV</td>
<td>0.10 mg/m³</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
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<tr>
<td>Crystalline Silica (Quartz)/Silica Sand - Respirable dust.</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Xylene</td>
<td>TWA</td>
<td>100 ppm 434 mg/m³</td>
<td>Canada. Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
</tr>
<tr>
<td>Chemical Identity</td>
<td>STEL</td>
<td>TWA</td>
<td>TWAEV</td>
</tr>
<tr>
<td>------------------</td>
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</tr>
<tr>
<td>Xylene</td>
<td>150 ppm</td>
<td>651 mg/m^3</td>
<td>Canada. Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
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<tr>
<td></td>
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<td></td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
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<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
</tbody>
</table>

### Biological Limit Values

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene (Methylhippuric acids: Sampling time: End of shift,)</td>
<td>1.5 g/g (Creatinine in urine)</td>
<td>ACGIH BEI (03 2013)</td>
</tr>
</tbody>
</table>

### Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

### Individual protection measures, such as personal protective equipment

**General information:**
Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof ventilation equipment.

**Eye/face protection:**
Wear safety glasses with side shields (or goggles).

**Skin Protection**
**Hand Protection:**
Use suitable protective gloves if risk of skin contact.

**Other:**
Wear suitable protective clothing.
Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes. When using do not smoke.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Viscous Liquid
Color: Black
Odor: Mild petroleum/solvent
Odor threshold: No data available.
PH: No data available.
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: 43 °C 109 °F (Tagliabue Closed Cup)
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
  Flammability limit - upper (%): No data available.
  Flammability limit - lower (%): No data available.
  Explosive limit - upper (%): No data available.
  Explosive limit - lower (%): No data available.
Vapor pressure: No data available.
Vapor density: Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density: 0.864
Solubility(ies)
  Solubility in water: Practically Insoluble
  Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Heat, sparks, flames.

Incompatible Materials: Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates).

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: May be harmful in contact with skin. Causes mild skin irritation.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: No data available.

Dermal Product: ATEmix: 2,127.02 mg/kg

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin Corrosion/Irritation Product: No data available.

Specified substance(s):

Asphalt in vivo (Rabbit): Experimental result, Key study

Calcium carbonate in vivo (Rabbit): Experimental result, Key study

1,2,4-Trimethylbenzene in vivo (Rabbit): Read-across from supporting substance (structural analogue or surrogate), Key study
Nonane  in vivo (Rabbit): Read-across based on grouping of substances (category approach), Key study

Magnesite  In vitro (Human, in vitro reconstituted epidermis model): Experimental result, Key study

Xylene  in vivo (Rabbit): Experimental result, Weight of Evidence study

**Serious Eye Damage/Eye Irritation**

*Product:* No data available.

*Specified substance(s):*
- **Asphalt**  in vivo (Rabbit, 24 hrs): Not irritating
- **Stoddard solvent (Mineral Spirits)**  Irritating
- **Calcium carbonate**  in vivo (Rabbit, 24 - 72 hrs): Not irritating
- **1,2,4-Trimethylbenzene**  in vivo (Rabbit, 30 min): Not irritating
- **Nonane**  in vivo (Rabbit, 24 - 72 hrs): Not irritating
- **Xylene**  in vivo (Rabbit, 24 hrs): Moderately irritating

**Respiratory or Skin Sensitization**

*Product:* No data available.

**Carcinogenicity**

*Product:* No data available.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

- **Asphalt**  Overall evaluation: Possibly carcinogenic to humans.
- **Crystalline Silica (Quartz)/ Silica Sand**  Overall evaluation: Carcinogenic to humans.

**US. National Toxicology Program (NTP) Report on Carcinogens:**

- **Crystalline Silica (Quartz)/ Silica Sand**  Known To Be Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**

No carcinogenic components identified
Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Calcium carbonate LC 50 (Western mosquitofish (Gambusia affinis), 96 h): > 56,000 mg/l Mortality

1,2,4-Trimethylbenzene LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.19 - 8.28 mg/l Mortality

Xylene LC 50 (Bryconamericus iheringii, 96 h): 9.94 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (Oncorhynchus mykiss, 96 h): 8.05 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (Bryconamericus iheringii, 96 h): 6.9 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (Oncorhynchus mykiss, 96 h): 7.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study LC 50 (Oncorhynchus mykiss, 96 h): 2.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
1,2,4-Trimethylbenzene
- LC 50 (Scud (Elasmopus pectinicus), 24 h): 4.89 - 5.62 mg/l Mortality

Xylene
- EC 50 (Daphnia magna, 48 h): 3.82 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- EC 50 (Ceriodaphnia dubia, 48 h): > 3.4 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- EC 50 (Daphnia magna, 24 h): 4.7 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- IC 50 (Daphnia magna, 24 h): 3.6 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- IC 50 (Daphnia magna, 24 h): 2.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Asphalt
- NOAEL (Onchorhynchus mykiss, 28 d): >= 1,000 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study
- LL 50 (Onchorhynchus mykiss, 28 d): > 1,000 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study

Nonane
- NOAEL (Onchorhynchus mykiss, 28 d): 0.252 mg/l QSAR QSAR, Key study

Xylene
- NOAEL (Onchorhynchus mykiss, 56 d): > 1.3 mg/l Experimental result, Key study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Xylene
- NOAEL (Ceriodaphnia dubia, 7 d): 1.17 mg/l Read-across from supporting substance (structural analogue or surrogate), Key study
- NOAEL (Daphnia magna, 21 d): 1.57 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- LOAEL (Daphnia magna, 21 d): 3.16 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- EC 10 (Daphnia magna, 21 d): 1.91 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
- EC 50 (Daphnia magna, 21 d): 2.9 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.
BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available.

Specified substance(s):
Xylene

Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 5.5 - < 12.2 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 8.1 - < 25.9 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.2 - < 24.2 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.4 - < 18.5 Aquatic sediment Experimental result, Key study
Oncorhynchus mykiss, Bioconcentration Factor (BCF): > 7.7 - < 21.2 Aquatic sediment Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):
Stodder solvent (Mineral Spirits)
Log Kow: 3.16 - 7.15
Nonane
Log Kow: 5.46
Xylene
Log Kow: 3.12 - 3.20

Mobility in Soil: No data available.

Other Adverse Effects: Toxic to aquatic organisms.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT:
Not Regulated

000000017978
IMDG:

UN1133, ADHESIVES, 3, PG III

Further Information:
The above shipping description may not be accurate for all container sizes and all modes of transportation.
Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Nonane</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Xylene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Isobutane</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Nonane</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Xylene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Isobutane</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>
SARA 311/312 Hazardous Chemicals

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen sulfide</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Asphalt</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>500 lbs</td>
</tr>
<tr>
<td>1,2,4-Trimethylbenzene</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Nonane</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Cellulose</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Magnesite</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
<td>500 lbs</td>
</tr>
<tr>
<td>Xylene</td>
<td>500 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutane</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

US State Regulations

US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
</tr>
<tr>
<td>Calcium carbonate</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
</tr>
</tbody>
</table>

US. Massachusetts RTK - Substance List

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asphalt</td>
</tr>
<tr>
<td>Stoddard solvent (Mineral Spirits)</td>
</tr>
<tr>
<td>Calcium Carbonate (Limestone)</td>
</tr>
<tr>
<td>Calcium carbonate</td>
</tr>
<tr>
<td>Crystalline Silica (Quartz)/Silica Sand</td>
</tr>
<tr>
<td>Hydrogen sulfide</td>
</tr>
</tbody>
</table>
US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
- Asphalt
- Stoddard solvent (Mineral Spirits)
- Calcium Carbonate (Limestone)
- Calcium carbonate

US. Rhode Island RTK
No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:
- Regulatory VOC (less water and exempt solvent): 242 g/l
- VOC Method 310: 27.99 %

Inventory Status:
Australia AICS:
All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP:
One or more components in this product are not listed on or exempt from the Inventory.

Japan (ENCS) List:
One or more components in this product are not listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances:
All components in this product are listed on or exempt from the Inventory.

Canada NDSL Inventory:
One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS:
All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals:
All components in this product are listed on or exempt from the Inventory.

Japan ISHL Listing:
One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing:
One or more components in this product are not listed on or exempt from the Inventory.

Canada DSL Inventory List:
All components in this product are listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI):
All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory: All components in this product are listed on or exempt from the Inventory.

16. Other information, including date of preparation or last revision

Revision Date: 04/28/2016
Version #: 1.1
Further Information: No data available.
Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.