SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Contact information

General

Wanhua Chemical (America) Co., Ltd.
3803 West Chester Pike, Suite 240
Newtown Square, PA 19073
Main: 613-796-1606
Customer Service: 610-566-5297

Emergency telephone number

Chemtrec (24-hour availability):
+1 (800) 424-9300 (USA and Canada)
+1 (703) 527-3887 (International; collect calls accepted)

Product identifier

Wannate® 8678

Synonyms

None identified

Trade names

Wannate® 8678

Chemical family

Mixture

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

Component for polyurethane products; Chemical intermediate.

Note

The toxicological and ecological properties of this product/mixture have not been fully characterized. This SDS will be updated as more data become available.

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System [GHS]

Acute Toxicity (Inhalation) Category 4. Specific Target Organ Toxicity (single exposure) - Category 3. Respiratory sensitizer - Category 1. Skin sensitizer - Category 1. Irritant (skin) - Category 2. Irritant (eye) - Category 2. Carcinogenic - Category 2. Specific Target Organ Toxicity (repeated exposure) - Category 2.
SECTION 2 - HAZARDS IDENTIFICATION …continued

Other/Supplemental Mixture not yet fully tested.

Label elements

GHS hazard pictogram

GHS signal word Danger

GHS hazard statements H315 - Causes skin irritation. H319 - Causes serious eye irritation. H332 - Harmful if inhaled. H335 - May cause respiratory irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 - May cause allergic skin reaction. H351 - Suspected of causing cancer. H373 - May cause damage to lungs through prolonged or repeated exposure.

GHS precautionary statements P201 - Obtain special instructions before use. P260 - Do not breathe mist/vapors/spray. P280 - Wear protective gloves/eye protection/face protection. P285 - In case of inadequate ventilation wear respiratory protection. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 - If exposed or concerned: get medical advice/attention. P312 - Call a Poison Center or doctor/physician if you feel unwell. P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention. P337 + P313 - If eye irritation persists: Get medical advice/attention. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P362 - Take off contaminated clothing and wash before reuse. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. P501 - Dispose of contents/container to location in accordance with local/regional/national/international regulations.

Other hazards The potential health hazards associated with exposure/handling of this mixture are unknown; no data specific for the mixture were identified. The following data describe the hazards of individual ingredients, where applicable.

4,4'-Diphenylmethane diisocyanate is irritating to the eyes, skin and respiratory tract and repetitive exposure can result in respiratory sensitization. Cross sensitization to other isocyanates can occur. Acute exposure to high concentrations may result in coughing, shortness of breath, and pulmonary edema. Severe irritation and destruction of tissues of the mucous membranes and upper respiratory tract, eyes, and skin can result which may be associated with tearing of the eyes, wheezing, laryngitis, sweating, tightness in chest, headache, nausea, and vomiting.
SECTION 2 - HAZARDS IDENTIFICATION …continued

Note
This mixture is classified as hazardous under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA). The toxicological and ecological properties of this mixture have not been fully characterized.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>EINECS/ELIN CS#</th>
<th>Amount</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepolymer of MDI and polyester polyl</td>
<td>27083-55-2</td>
<td>N/A</td>
<td>30-50%</td>
<td>SS1: H317; RS1: H334; STOT-SE3: H335; EI2: H319; SI2: H315</td>
</tr>
</tbody>
</table>

Note
The ingredient(s) listed above are considered hazardous. GHS classifications of 4,4’-Diphenylmethane diisocyanate are based on the classification in EU - CLP Annex VI - Table 3.1. See Section 16 for full text of GHS classifications.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed
Yes

Eye Contact
In the event of a chemical exposure, immediately irrigate eyes with copious quantities of water for at least 15 minutes. Remove contact lenses as soon as practical. Do not delay irrigation while waiting for contact lens removal. If irritation occurs or persists, notify medical personnel and supervisor.

Skin Contact
Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.

Inhalation
Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.

Ingestion
If swallowed, call a physician immediately. Do not induce vomiting unless directed by medical personnel. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.
### SECTION 4 - FIRST AID MEASURES …continued

<table>
<thead>
<tr>
<th>Protection of first aid responders</th>
<th>See Section 8 for Exposure Controls/Personal Protection recommendations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most important symptoms and effects, both acute and delayed</td>
<td>See Sections 2 and 11</td>
</tr>
<tr>
<td>Indication of immediate medical attention and special treatment needed, if necessary</td>
<td>Medical conditions aggravated by exposure: Asthma and/or pulmonary disorders. This material can produce asthmatic sensitization following either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposure to lower concentrations. Individuals with lung or breathing problems or prior allergy to isocyanates should be protected from exposure to vapor or mist.</td>
</tr>
</tbody>
</table>

### SECTION 5 - FIREFIGHTING MEASURES

<table>
<thead>
<tr>
<th>Extinguishing media</th>
<th>Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific hazards arising from the substance or mixture</td>
<td>No information identified. May emit carbon monoxide, carbon dioxide, and oxides of nitrogen.</td>
</tr>
<tr>
<td>Flammability/Explosivity</td>
<td>No explosivity or flammability data available. Keep container tightly closed. Use only with adequate ventilation.</td>
</tr>
<tr>
<td>Advice for firefighters</td>
<td>Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.</td>
</tr>
</tbody>
</table>

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

<table>
<thead>
<tr>
<th>Personal precautions, protective equipment and emergency procedures</th>
<th>If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental precautions</td>
<td>Do not empty into drains. Avoid release to the environment.</td>
</tr>
<tr>
<td>Methods and material for containment and cleaning up</td>
<td>DO NOT CAUSE MATERIAL TO BECOME AIRBORNE. For small spills, soak up material with absorbent, e.g., paper towels. For large spills, cordon off spill area and minimize the spreading of spilled material. Soak up material with absorbent. Treat with appropriate neutralizing solution: mixture of water, with non-ionic surfactant, concentrated ammonia and detergent. Add about 10 parts neutralizing solution per part isocyanate. Saturate absorbent material with neutralization solution and mix. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Collect spilled material, absorbent, and rinse water into suitable containers for proper disposal in accordance with applicable waste disposal regulations (see Section 13).</td>
</tr>
</tbody>
</table>
SECTION 6 - ACCIDENTAL RELEASE MEASURES  …continued

Reference to other sections  See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling  Use adequate engineering controls to keep airborne isocyanate levels below applicable exposure limits. Avoid contact with eyes, skin and other mucous membranes. Warning properties (irritation of eyes, nose and odor) are not adequate to prevent overexposure via inhalation. Wash thoroughly after handling. Avoid breathing vapor/mist/spray.

Conditions for safe storage including any incompatibilities  Keep container tightly closed in a dry, well-ventilated place. Avoid moisture. Store at ambient room temperature (between 25-35 °C).

Specific end use(s)  No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters/Occupational Exposure Limit Values

<table>
<thead>
<tr>
<th>Compound</th>
<th>Issuer</th>
<th>Type</th>
<th>OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4'-Diphenylmethane diisocyanate</td>
<td>ACGIH</td>
<td>TLV-TWA (8-Hr)</td>
<td>0.005 ppm</td>
</tr>
<tr>
<td>Belgium, Bulgaria, Denmark</td>
<td></td>
<td>8-hour TWA</td>
<td>0.005 ppm</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>VME (8-Hour)</td>
<td>0.01 ppm</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>VLE</td>
<td>0.02 ppm</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>MAK-TWA (8-Hr)</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td>8-hour TWA</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Hungary</td>
<td></td>
<td>STEL</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Netherlands</td>
<td></td>
<td>MAC - TGG</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td>REL - TWA (8-Hr)</td>
<td>0.005 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td>Ceiling (10 min)</td>
<td>0.02 ppm</td>
</tr>
<tr>
<td>NIOSH</td>
<td></td>
<td>IDLH</td>
<td>75 mg/m³</td>
</tr>
<tr>
<td>Poland</td>
<td></td>
<td>MAC (8-Hr TWA)</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td>8-hour TWA</td>
<td>0.002 ppm</td>
</tr>
<tr>
<td>Sweden</td>
<td></td>
<td>Ceiling</td>
<td>0.005 ppm</td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td>WEL-TWA</td>
<td>0.02 mg/m³</td>
</tr>
<tr>
<td>US-OSHA</td>
<td></td>
<td>PEL- 8-Hour TWA</td>
<td>0.02 ppm</td>
</tr>
<tr>
<td>US-OSHA</td>
<td></td>
<td>PEL - Ceiling</td>
<td>0.05 mg/m³</td>
</tr>
</tbody>
</table>
SECTION 8 - EXPOSURE CONTROLS/PERSOAL PROTECTION …continued

Control
Parameters/Occupational
Exposure Limit Values
…continued

<table>
<thead>
<tr>
<th>Compound</th>
<th>Issuer</th>
<th>Type</th>
<th>OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepolymer of MDI and polyester polyol</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Exposure/Engineering controls
Control exposures to below the applicable OEL(s). Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Open handling should not be performed when handling potent substances, or substances of unknown toxicity. Material should be handled inside a closed process, ventilated enclosure, isolator or device of equivalent or better control that is suitable for dusts and/or aerosols.

Respiratory protection
Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. For routine handling tasks, an approved and properly worn positive-pressure air-supplied respirator should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls.

Hand protection
Wear impervious gloves if skin contact is possible. Double gloves should be considered. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

Skin protection
Wear appropriate gloves, lab coat, or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use.

Eye/face protection
Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.

Environmental Exposure Controls
Avoid release to the environment and operate within closed systems wherever practicable. Liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.

Other protective measures
Wash hands in the event of contact with this product/mixture, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors). Decontaminate all protective equipment following use.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
### SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES …continued

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Pale yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Slightly pungent odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information identified.</td>
</tr>
<tr>
<td>pH</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt;300°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt;190°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>&lt;10^-4 mm Hg @ 40 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>~8.5</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Reacts with water.</td>
</tr>
<tr>
<td>Solvent solubility</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information identified.</td>
</tr>
<tr>
<td><strong>(n-octanol/water)</strong></td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>&gt;200°C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt;250°C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>900-1300 mPa-s @ 25 °C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information identified.</td>
</tr>
</tbody>
</table>

**Other information**

- **Molecular weight**: Not applicable (Mixture)
- **Molecular formula**: Not applicable (Mixture)
SECTION 10 - STABILITY AND REACTIVITY

Reactivity
Avoid contact with moisture and other materials that react with isocyanates (see incompatible materials).

Chemical stability
Stable when stored as recommended.

Possibility of hazardous reactions
Hazardous polymerization can occur at high temperatures; avoid heating above 392°F.

Conditions to avoid
Avoid contact with moisture or water. Avoid excessive heat.

Incompatible materials
Water, alcohols, strong bases, amines, carboxylic acids, copper alloys, organotin catalysts. Reacts slowly with water to form carbon dioxide which could rupture closed containers.

Hazardous decomposition products
By fire and high heat: hydrogen cyanide, isocyanate, isocyanic acid.

SECTION 11 - TOXICOLOGICAL INFORMATION

Note
No data for this product/mixture were identified. The following data describe the active ingredient and/or the individual ingredients where applicable.

Information on toxicological effects

Route of entry
May be absorbed by inhalation, skin contact and ingestion.

Acute toxicity

<table>
<thead>
<tr>
<th>Compound</th>
<th>Type</th>
<th>Route</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-Diphenylmethane diisocyanate</td>
<td>LC$_{50}$</td>
<td>Inhalation</td>
<td>Rat</td>
<td>178 mg/m$^3$</td>
</tr>
<tr>
<td></td>
<td>LC$_{50}$</td>
<td>Inhalation</td>
<td>Rat</td>
<td>369-380 mg/m$^3$ (4-hour)</td>
</tr>
<tr>
<td></td>
<td>LD$_{50}$</td>
<td>Oral</td>
<td>Rat</td>
<td>9200 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD$_{50}$</td>
<td>Oral</td>
<td>Mouse</td>
<td>2200 mg/kg</td>
</tr>
<tr>
<td>Prepolymer of MDI and polyester polyol</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Irritation/Corrosion
4-4’-Diphenylmethane diisocyanate (MDI) is a skin and eye irritant.

Sensitization
MDI is a skin and respiratory sensitizer.

STOT-single exposure
No studies identified.
In rats exposed to inhalation doses of respirable aerosol (containing ~31% polymeric MDI isocyanate and 45-50% monomeric MDI) at concentrations of up to 6 mg/m³ for 6 hours/day, 5 days/week over 2 years, effects on the lungs (accumulation of alveolar macrophages, localized lung fibrosis, increased incidence of calcareous deposits and alveolar bronchiolization) were observed at the high dose. Effects observed at all doses included accumulations of alveolar macrophages containing MDI-associated material at the level of the alveolar duct in the lungs; a NOAEL was not identified.

Effects observed at all doses included accumulations of alveolar macrophages containing MDI-associated material at the level of the alveolar duct in the lungs; a NOAEL was not identified.

In another inhalation study with polymeric MDI (containing 40-60% monomeric MDI), maternal toxicity and fetal toxicity in rats was detected at inhalation doses of 12 mg/m³. The maternal NOAEL was 4 mg/m³ and the developmental LOAEL was 12 mg/m³.

MDI was positive for genotoxicity in the Ames assay (strain TA100), only in the presence of exogenous metabolic activation. However, MDI was negative for genotoxicity in the mouse micronucleus test.

In female and male rats exposed to inhalation doses of respirable aerosol (containing ~31% PMDI, and 45-50% monomeric MDI) at concentrations of up to 6 mg/m³ for 6 hours/day for 5 days/week over 2 years caused lung tumors. No lung tumors were found in other groups.

In an MDI inhalation study in rats, low levels of arylamine-derived DNA adducts were formed in the olfactory epithelium of animals exposed to inhalation doses of 0.7-2 mg/m³ for 17 hours/day, five days per week over one year. However, adducts were not detected in DNA from lung, liver, bladder, kidney, respiratory epithelium or peripheral blood lymphocytes of exposed animals.

MDI/PMDI are not classifiable as to carcinogenicity in humans: IARC Group 3. According to USEPA's 1996 Guidelines for Carcinogenic Risk Assessment, monomeric MDI or polymeric MDI (PMDI) are classified as not classifiable/Group D chemicals. The carcinogenic potential of MDI/PMDI is thus characterized as "cannot be determined, but for which there is suggestive evidence that raises concern for carcinogenic effects". None of the components of the product present at levels greater than or equal to 0.1% are listed by NTP, IARC, ACGIH or OSHA as a carcinogen.

Aspiration hazard
No studies identified

Human health data
See "Section 2 - Other Hazards"
SECTION 11 - TOXICOLOGICAL INFORMATION …continued

Additional information  The toxicological properties of this mixture have not been fully characterized.

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

<table>
<thead>
<tr>
<th>Compound</th>
<th>Type</th>
<th>Species</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,4’-Diphenylmethane diisocyanate</td>
<td>EC₅₀/48h</td>
<td>Daphnia magna (water flea)</td>
<td>&gt; 1000 mg/L</td>
</tr>
<tr>
<td></td>
<td>EC₅₀/96h</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>&gt; 1000 mg/L</td>
</tr>
<tr>
<td>Prepolymer of MDI and polyester polyol</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Additional toxicity information  No data identified.

Persistence and Degradability  MDI hydrolyzes rapidly in aqueous solution.

Bioaccumulative potential  Not applicable due to rapid hydrolysis.

Mobility in soil  Not applicable due to rapid hydrolysis.

Results of PBT and vPvB assessment  Not performed.

Other adverse effects  No data identified.

Note  The environmental characteristics of this mixture have not been fully investigated. The above data are for the active ingredient and/or any other ingredient(s) where applicable. Releases to the environment should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods  Used product should be disposed of according to local, state, and federal regulations. Do not send down the drain or flush down the toilet. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g., appropriately permitted municipal or on-site wastewater treatment facility.
### SECTION 14 - TRANSPORT INFORMATION

**Transport**
Based on the available data, this product/mixture is regulated as a hazardous material/dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.

**UN number**
2206

**UN proper shipping name**
Isocyanate solution, toxic, n.o.s.

**Transport hazard classes and packing group**
Hazard Class 6.1 - Packing Group II

**Environmental hazards**
Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant.

**Special precautions for users**
Avoid release to the environment.

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

### SECTION 15 - REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**
This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information.

**Chemical safety assessment**
Not conducted.

**TSCA status**
All components of mixture are on the TSCA Inventory.

**SARA section 313**
MDI is listed.

**California proposition 65**
Not listed.

**Additional information**
No other information identified.
SECTION 16 - OTHER INFORMATION

Full text of H phrases and GHS classifications


Sources of data

Information from published literature and internal company data.

Abbreviations

ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DNEL - Derived No Effect Level; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; WHMIS - Workplace Hazardous Materials Information System

Issue Date

22 April 2016

Revisions

This is the first version of this SDS.

Disclaimer

The above information is based on data available to us and is believed to be correct. Since the information may be applied under conditions beyond our control and with which we may be unfamiliar, we do not assume any responsibility for the results of its use and all persons receiving it must make their own determination of the effects, properties and protections which pertain to their particular conditions. No representation, warranty, or guarantee, express or implied (including a warranty of fitness or merchantability for a particular purpose), is made with respect to the materials, the accuracy of this information, the results to be obtained from the use thereof, or the hazards connected with the use of the material. Caution should be used in the handling and use of the material because it is a chemical product. The above information is offered in good faith and with the belief that it is accurate. As of the date of issuance, we are providing all information relevant to the foreseeable handling of the material. However,
SECTION 16 - OTHER INFORMATION …continued

Disclaimer …continued

… in the event of an adverse incident associated with this product, this Safety Data Sheet is not, and is not intended to be, a substitute for consultation with appropriately trained personnel.