1. Product and Company Identification

- **Material name**: METHYLENE CHLORIDE
- **Version #**: 06
- **Revision date**: 04-26-2011
- **CAS #**: 75-09-2
- **Product Codes**: J.T.Baker: 9264, 9266, 9295, 9315, 9324, 9329, 9348, 9350, 9428, Q480
- **Manufacturer Address**: Avantor Performance Materials, Inc.
  222 Red School Lane
  Phillipsburg, NJ 08865
  US
- **Customer Service**: 800-582-2537
- **24 Hour Emergency**: 908-859-2151
- **Chemtrec**: 800-424-9300

2. Hazards Identification

- **Emergency overview**: WARNING
- **Possible cancer hazard - may cause cancer based on animal data. Harmful if inhaled or swallowed. Causes skin and eye irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract. May cause an increase in carboxyhemoglobin levels.**
- **OSHA regulatory status**: This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
- **Potential health effects**
  - **Routes of exposure**: Inhalation. Ingestion. Skin contact. Eye contact.
  - **Eyes**: Causes eye irritation.
  - **Skin**: Causes skin irritation.
  - **Inhalation**: Harmful if inhaled. May cause cancer by inhalation. High vapor concentrations may cause drowsiness. High vapor concentrations are irritating to the eyes, nose, throat, and lungs.
  - **Ingestion**: Harmful if swallowed. Irritating. May cause nausea, stomach pain and vomiting.
- **Chronic effects**: Possible cancer hazard - may cause cancer based on animal data. May cause an increase in carboxyhemoglobin levels. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
- **Potential environmental effects**: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENE CHLORIDE</td>
<td>75-09-2</td>
<td>98 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

- **First aid procedures**
  - **Eye contact**: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
**5. Fire Fighting Measures**

**Flammable properties**
This product is not flammable. May burn, but does not ignite readily.

**Extinguishing media**
- Suitable extinguishing media: Water. Carbon dioxide (CO2). Dry chemical powder. Foam.
- Unsuitable extinguishing media: None known.

**Protection of firefighters**
- Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases.
- Protective equipment and precautions for firefighters: Use water spray to cool unopened containers. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters**
- Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

**Specific methods**
In the event of fire and/or explosion do not breathe fumes.

**Hazardous combustion products**
Carbon monoxide and carbon dioxide. Hydrogen Chloride (HCl).

**6. Accidental Release Measures**

**Personal precautions**
Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

**Environmental precautions**
Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**Methods for containment**
Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas.

**Methods for cleaning up**
- Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
- Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations. Collect in a non-combustible container for prompt disposal.
7. Handling and Storage

Handling
Wear appropriate personal protective equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Storage
Keep tightly closed in a dry, cool and well-ventilated place.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>ACGIH Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENE CHLORIDE (75-09-2)</td>
<td>BEL</td>
<td>0.3000 mg/l</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>50.0000 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>U.S. - OSHA Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENE CHLORIDE (75-09-2)</td>
<td>STEL</td>
<td>125.0000 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>25.0000 ppm</td>
</tr>
</tbody>
</table>

Engineering controls
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.

Personal protective equipment

Eye / face protection
Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection
Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.

Respiratory protection
Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General hygiene considerations
Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

General
Wear chemical protective equipment that is specifically recommended by the manufacturer. Launder contaminated clothing before reuse.

9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet. Pleasant.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point</td>
<td>-139 °F (-95 °C)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>-139 °F (-95 °C)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>104 °F (39.75 °C) 101.325 kPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>27.5 BuAc</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>66.4 %</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>15.5 %</td>
</tr>
</tbody>
</table>
**Vapor pressure** 58 kPa at 25°C  
**Vapor density** 2.93  
**Specific gravity** 1.3255  
**Relative density** Not available.  
**Solubility (water)** 20 g/l  
**Partition coefficient** (n-octanol/water) 1.25  
**Auto-ignition temperature** 1033 °F (556.1 °C)  
**Molecular weight** 84.93 g/mol  
**Molecular formula** C-H2-Cl2

### 10. Chemical Stability & Reactivity Information

**Chemical stability** Material is stable under normal conditions.  
**Conditions to avoid** Excessive heat. Moisture.  
**Hazardous decomposition products** Carbon oxides. Hydrogen chloride. Phosgene.  
**Possibility of hazardous reactions** Hazardous polymerization does not occur.

### 11. Toxicological Information

<table>
<thead>
<tr>
<th>Toxicological data</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product</strong></td>
<td><strong>Test Results</strong></td>
</tr>
</tbody>
</table>
| METHYLENE CHLORIDE (75-09-2) | Acute Inhalation LC50 Rat: 76 mg/l 4.00 Hours  
Acute Oral LD50 Rat: 1600 mg/kg |

**Sensitization** Not a skin sensitizer.  
**Acute effects** Harmful if inhaled or swallowed. May cause an increase in carboxyhemoglobin levels.  
**Local effects** Causes skin and eye irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract.  
**Chronic effects** May cause an increase in carboxyhemoglobin levels. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.  
**Carcinogenicity** Possible cancer hazard - may cause cancer based on animal data.  
**ACGIH Carcinogens** METHYLENE CHLORIDE (CAS 75-09-2) A3 Confirmed animal carcinogen with unknown relevance to humans.  
**IARC Monographs. Overall Evaluation of Carcinogenicity** METHYLENE CHLORIDE (CAS 75-09-2) 2B Possibly carcinogenic to humans.  
**Skin corrosion/irritation** Causes skin irritation.  
**Epidemiology** No epidemiological data is available for this product.  
**Mutagenicity** Not classified.  
**Neurological effects** High vapor/aerosol concentrations (attainable only at elevated temperatures) may cause central nervous system effects such as dizziness, drowsiness or headaches.  
**Reproductive effects** Contains no ingredient listed as toxic to reproduction.
Teratogenicity

Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. The relevance to humans is uncertain.

Symptoms and target organs


12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYLENE CHLORIDE (75-09-2)</td>
<td>EC50 Water flea (Daphnia magna): 1250 mg/l 48.00 hours&lt;br&gt;LC50 Fathead minnow (Pimephales promelas): 140.8 mg/l 96.00 hours</td>
</tr>
</tbody>
</table>

Ecotoxicity

Not expected to be harmful to aquatic organisms.

Environmental effects

Ecological injuries are not known or expected under normal use. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Persistence and degradability

Expected to biodegrade slowly.

Partition coefficient

1.25

13. Disposal Considerations

Waste codes

US RCRA Hazardous Waste U List: Reference

METHYLENE CHLORIDE (CAS 75-09-2) U080

Disposal instructions

Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.

Contaminated packaging

Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT

Basic shipping requirements:

UN number: UN1593
Proper shipping name: Dichloromethane
Hazard class: 6.1
Packing group: III
Additional information:

Special provisions: IB3, IP8, N36, T7, TP2

Basic shipping requirements:

Labels required: 6.1
Additional information:

Packaging exceptions: 153
Packaging non bulk: 203
Packaging bulk: 241
Reportable quantity: 1000
ERG number: 160

IATA

Basic shipping requirements:

UN number: 1593
Proper shipping name: Dichloromethane
Hazard class: 6.1
Packing group: III
15. Regulatory Information

**US federal regulations**
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.


**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**
METHYLENE CHLORIDE (CAS 75-09-2) 0.1 %

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**
METHYLENE CHLORIDE (CAS 75-09-2) Listed.

**CERCLA (Superfund) reportable quantity**
METHYLENE CHLORIDE: 1000.0000

**Supervision Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**
- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

**Section 311 hazardous chemical**
Yes

**Clean Air Act (CAA)**
HAPS list

**Clean Water Act (CWA)**
- Priority pollutant
- Toxic pollutant

**Safe Drinking Water Act (SDWA)**
- 0 mg/l
- 0.005 mg/l

**Inventory status**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)*</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)*

State regulations:
WARNING: This product contains a chemical known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance
METHYLENE CHLORIDE (CAS 75-09-2) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance
METHYLENE CHLORIDE (CAS 75-09-2) Listed: April 1, 1988 Carcinogenic.

US - New Jersey Community RTK (EHS Survey): Reportable threshold
METHYLENE CHLORIDE (CAS 75-09-2) 500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance
METHYLENE CHLORIDE (CAS 75-09-2) Listed.

US - Pennsylvania RTK - Hazardous Substances: Special hazard
METHYLENE CHLORIDE (CAS 75-09-2) Special hazard.

Saf-T-Data
Health: 2 - Moderate (Poison)
Flammability: 1 - Slight
Reactivity: 1 - Slight
Contact: 3 - Severe
Lab Protective Equip: D - GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: B - Blue (Health)

16. Labeling Info

Label Hazard Warning
WARNING
Possible cancer hazard - may cause cancer based on animal data. Harmful if inhaled or swallowed. Causes skin and eye irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract. May cause an increase in carboxyhemoglobin levels.

Label Precautions
Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Keep container closed.

Label First Aid
Immediately flush eyes with plenty of water for at least 15 minutes. Flush skin thoroughly with water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention if irritation develops or persists. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without advice from poison control center.

17. Other Information

NFPA ratings
Health: 2
Flammability: 1
Instability: 0
THE INFORMATION PRESENTED IN THIS MATERIAL SAFETY DATA SHEET (MSDS/SDS) WAS PREPARED BY TECHNICAL PERSONNEL BASED ON DATA THAT THEY BELIEVE IN THEIR GOOD FAITH JUDGMENT IS ACCURATE. HOWEVER, THE INFORMATION PROVIDED HEREIN IS PROVIDED “AS IS,” AND AVANTOR PERFORMANCE MATERIALS MAKES AND GIVES NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, AND EXPRESSLY DISCLAIMS ALL WARRANTIES REGARDING SUCH INFORMATION AND THE PRODUCT TO WHICH IT RELATES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF ACCURACY, COMPLETENESS, MERCHANTABILITY, NON-INFRINGEMENT, PERFORMANCE, SAFETY, SUITABILITY, STABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TRADE. THIS MSDS/SDS IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PROPERLY TRAINED PERSON USING THIS PRODUCT, AND IS NOT INTENDED TO BE COMPREHENSIVE AS TO THE MANNER AND CONDITIONS OF USE, HANDLING, STORAGE, OR DISPOSAL OF THE PRODUCT. INDIVIDUALS RECEIVING THIS MSDS/SDS MUST ALWAYS EXERCISE THEIR OWN INDEPENDENT JUDGMENT IN DETERMINING THE APPROPRIATENESS OF SUCH ISSUES. ACCORDINGLY, AVANTOR PERFORMANCE MATERIALS ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF OR RELIANCE UPON THIS INFORMATION. NO SUGGESTIONS FOR USE ARE INTENDED AS, AND NOTHING HEREIN SHALL BE CONSTRUED AS, A RECOMMENDATION TO INFRINGE ANY EXISTING PATENTS OR TO VIOLATE ANY FEDERAL, STATE, LOCAL, OR FOREIGN LAWS. AVANTOR PERFORMANCE MATERIALS REMINDS YOU THAT IT IS YOUR LEGAL DUTY TO MAKE ALL INFORMATION IN THIS MSDS/SDS AVAILABLE TO YOUR EMPLOYEES.

Issue date
04-26-2011

This data sheet contains changes from the previous version in section(s):
Exposure Controls / Personal Protection: Respiratory protection

Material name: METHYLENE CHLORIDE
MSDS ID: M4420  Version #: 06  Revision date: 04-26-2011