Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name: Acetone OmniSolv ® HR-GC Grade
Manufacturer: EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

Effective Date: 06/03/2004

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym: DIMETHYL KETONE; 2-PROPANONE
Material Uses: Analytical reagent.
Chemical Family: Aliphatic ketone.

Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>100</td>
</tr>
</tbody>
</table>

Section 3. Hazards Identification

Physical State and Appearance: Liquid.

Emergency Overview:
DANGER!
EXTREMELY FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL IF INHALED OR SWALLOWED.
CAUSES EYE AND SKIN IRRITATION.
CAUSES DAMAGE TO THE FOLLOWING ORGANS: RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM, EYE, LENS OR CORNEA.

Routes of Entry:
Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects:

Eyes: Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin: Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation: Hazardous in case of inhalation.

Ingestion: Hazardous in case of ingestion.
Potential Chronic Health Effects
Carcinogenic Effects
This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions
Aggravated by Overexposure:
Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

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**Section 4. First Aid Measures**

**Eye Contact**
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact**
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Inhalation**
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion**
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or wristband. Get medical attention immediately.

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**Section 5. Fire Fighting Measures**

**Flammability of the Product**
Product will burn.

**Auto-ignition Temperature**
464.9°C (868.8°F)

**Flash Points**
Closed cup: -18.1°C (-0.6°F).

**Flammable Limits**
LOWER: 2.6%  UPPER: 12.8%

**Products of Combustion**
These products are carbon oxides (CO, CO2).

**Fire Hazards in Presence of Various Substances**
Extremely flammable in presence of open flames, sparks and static discharge, of shocks, of heat, of oxidizing materials.

**Explosion Hazards in Presence of Various Substances**
Risks of explosion of the product in presence of static discharge:
Extremely flammable in presence of open flames, sparks and static discharge.

Risks of explosion of the product in presence of mechanical impact:
Extremely flammable in presence of shocks.

**Fire Fighting Media and Instructions**
LARGE FIRE: Use DRY chemical powder.

**Protective Clothing (Fire)**
Be sure to use an approved/certified respirator or equivalent.

**Special Remarks on Fire Hazards**
Dangerous fire and explosion risk. Vapor may travel considerable distance to source of ignition and flash back.

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**Section 6. Accidental Release Measures**

**Small Spill and Leak**
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

**Large Spill and Leak**
Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

**Spill Kit Information**
The following EMD Chemicals Inc. SpillSolv ® absorbent is recommended for this product:
SX1330 Solvent Treatment Kit

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**Section 7. Handling and Storage**

**Handling**
Keep away from heat, sparks and flame. Do not ingest. Do not breathe gas/fumes/vapor/spray. Do not get in eyes, on skin, or on clothing.

**Storage**
Keep container in a cool, well-ventilated area.
Section 8. Exposure Controls/Personal Protection

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

**Eyes**

Safety glasses.

**Body**

Synthetic apron.

**Respiratory**

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

**Hands**

Gloves (impervious).

**Feet**

Not applicable.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name: Acetone

**Exposure Limits**

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<tr>
<th>Source</th>
<th>Limit Type</th>
<th>Limit</th>
<th>Time Period</th>
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</thead>
<tbody>
<tr>
<td>BAUA (Germany, 1997).</td>
<td>Spitzenbegrenzung</td>
<td>4800 mg/m³</td>
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<tr>
<td></td>
<td>Spitzenbegrenzung</td>
<td>2000 ppm</td>
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<td>TWA</td>
<td>1200 mg/m³ 8 hour(s).</td>
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<td>1200 mg/m³ 8 hour(s).</td>
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<tr>
<td></td>
<td>TWA</td>
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<tr>
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<tr>
<td></td>
<td>GV</td>
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<tr>
<td></td>
<td>GV</td>
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<tr>
<td>INRS (France, 1996).</td>
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<tr>
<td></td>
<td>VME</td>
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<td>VME</td>
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<td>National Authority for Occupational Safety/Health (Ireland, 1999).</td>
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<td>Arbeidsinspectie (Netherlands, 1999).</td>
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<td>TGG 8 uur</td>
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<td></td>
<td>TGG 8 uur</td>
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<td>N-Arbeidstilsinett (Norway, 1996).</td>
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<td>TWA</td>
<td>1810 mg/m³ 8 hour(s).</td>
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<td>STEL</td>
<td>750 ppm 15 minute(s).</td>
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<td>TWA</td>
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<td>TWA</td>
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<td>NIOSH REL (United States, 1994).</td>
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<td>390 mg/m³ 10 hour(s).</td>
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<td>TWA</td>
<td>250 ppm 10 hour(s).</td>
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<td>OSHA (United States, 1989).</td>
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<td>2400 mg/m³ 15 minute(s).</td>
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<td>TWA</td>
<td>1800 mg/m³ 8 hour(s).</td>
<td></td>
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<tr>
<td>OSHA Final Rule (United States, 1989).</td>
<td>STEL</td>
<td>2400 mg/m³ 15 minute(s).</td>
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<tr>
<td></td>
<td>STEL</td>
<td>1000 ppm 15 minute(s).</td>
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<td></td>
<td>TWA</td>
<td>1800 mg/m³ 8 hour(s).</td>
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<tr>
<td></td>
<td>TWA</td>
<td>750 ppm 8 hour(s).</td>
<td></td>
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<tr>
<td>AUV (Austria, 1995).</td>
<td>Spitzenbegrenzung</td>
<td>3560 mg/m³ 3 times per shift, 60 minute(s).</td>
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<tr>
<td></td>
<td>Spitzenbegrenzung</td>
<td>1500 ppm 3 times per shift, 60 minute(s).</td>
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<tr>
<td></td>
<td>TWA</td>
<td>1780 mg/m³ 8 hour(s).</td>
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<td></td>
<td>TWA</td>
<td>750 ppm 8 hour(s).</td>
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</tbody>
</table>
Section 9. Physical and Chemical Properties

Odor: Pungent.
Color: Colorless.
Physical State and Appearance: Liquid.
Molecular Weight: 58.09 g/mole
Molecular Formula: C3-H6-O
pH: Not available.
Boiling/Condensation Point: 56.17°C (133.1°F)
Melting/Freezing Point: -94.2°C (-137.6°F)
Critical Temperature: 234.9°C (454.8°F)
Specific Gravity: 0.791 (Water = 1)
Vapor Pressure: Not available.
Vapor Density: 2 (Air = 1)
Odor Threshold: 100 ppm
Evaporation Rate: 6.06 compared to (n-BUTYL ACETATE=1)
LogKow: Not available.
Dispersion Properties: See solubility in water.
Solubility: Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity: The product is stable.
Conditions of Instability: Not available.
Incompatibility with Various Substances: Extremely reactive or incompatible with oxidizing agents, acids.
Rem/Incompatibility: Not available.
Hazardous: COx carbon oxides (CO, CO2)
Decomposition Products: Will not occur.

Section 11. Toxicological Information

RTECS Number: Acetone AL3150000
Toxicity: Acute oral toxicity (LD50): 5340 mg/kg [Rabbit].
Chronic Effects on Humans: Not available.
Acute Effects on Humans: Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. Hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Hazardous in case of inhalation. Hazardous in case of ingestion.
Synergetic Products (Toxicologically): Not available.
Irritancy: Draize Test (Rabbit):
Eyes: 20mg/24h. Reaction: Moderate.
Skin 500 mg/24h Mild
Sensitization: Not available.
Carcinogenic Effects: This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System: Tests on laboratory animals for reproductive effects are cited in Registry of Toxic Effects on Chemical Substances (RTECS).
Teratogenic Effects: Not available.
Mutagenic Effects: Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of...
Section 12. Ecological Information

Ecotoxicity: Not available.
BOD5 and COD: Not available.
Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number: U002 D001
Treatment: Specified Technology - Incineration to a level below TCA (Total Constituent Analyses) levels. Contact your local permitted waste disposal site (TSD) for permissible treatment sites. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification: Proper Shipping Name: ACETONE
  Hazard Class: 3
  UN number: UN1090
  Packing Group: II
  RQ: 5000 lbs. (2268 kg)

TDG Classification: Not available.

IMO/IMDG Classification: Proper Shipping Name: ACETONE
  Hazard Class: 3
  UN number: UN1090
  Packing Group: II
  RQ: 5000

ICAO/IATA Classification: Not available.

Section 15. Regulatory Information

U.S. Federal Regulations: TSCA 4(a) final test rules: ACETONE
  TSCA 8(b) inventory: ACETONE
  TSCA 12(b) one time export: ACETONE
  SARA 302/304/311/312 extremely hazardous substances: No products were found.
  SARA 302/304 emergency planning and notification: No products were found.
  SARA 302/304/311/312 hazardous chemicals: ACETONE
  SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ACETONE: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
  SARA 313 toxic chemical notification and release reporting: No products were found.
  Clean Water Act (CWA) 307: No products were found.
  Clean Water Act (CWA) 311: No products were found.
  Clean air act (CAA) 112 accidental release prevention: No products were found.
  Clean air act (CAA) 112 regulated flammable substances: No products were found.
  Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada): CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
  Class D-2B: Material causing other toxic effects (TOXIC).
  CEPA DSL: ACETONE
  This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS: Acetone 200-662-2
  R36- Irritating to eyes.

International Lists

Australia (NICNAS): ACETONE

Japan (MIT): ACETONE

Korea (TCCL): ACETONE

Philippines (RA6969): ACETONE

China: No products were found.

State Regulations

Pennsylvania RTK: ACETONE: (environmental hazard, generic environmental hazard)
Massachusetts RTK: ACETONE
New Jersey: ACETONE
California prop. 65: No products were found.
Section 16. Other Information

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

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.