Material Safety Data Sheet
N,N-Dimethylacetamide

MSDS# 07680

Section 1 - Chemical Product and Company Identification

MSDS Name: N,N-Dimethylacetamide
Catalog Numbers: AC115690250, AC167780025, AC167785000, 61031-1000, BP2609-100, D135-500, O2434-4
Synonyms: Acetic acid dimethylamide; Dimethylamide acetate; DMAC; Acetdimethylamide; Dimethylacetone amide; DMA; Acetyl dimethylamide.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 127-19-5
Chemical Name: N,N-Dimethylacetamide
%: 99+
EINECS#: 204-826-4

Hazard Symbols: T
Risk Phrases: 61 20/21

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Warning! Combustible liquid and vapor. Causes respiratory tract irritation. Hygroscopic (absorbs moisture from the air). Harmful if absorbed through skin or if inhaled. May cause harm to the unborn child. Target Organs: Central nervous system, liver, respiratory system, reproductive system.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation. Harmful if absorbed through the skin. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.
Ingestion: Causes respiratory tract irritation. May cause effects similar to those described for ingestion. Inhalation at high concentrations may cause CNS depression and asphyxiation.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing
contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center. Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Will burn if involved in a fire. Combustible liquid and vapor.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Do NOT use straight streams of water.

Autoignition Temperature: 335 deg C (635.00 deg F)
Flash Point: 63 deg C (145.40 deg F)

Explosion Limits: Lower: 1.8 @ 100°C
Explosion Limits: Upper: 11.5 @ 160°C

NFPA Rating: health: 2; flammability: 2; instability: 1;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self-contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Keep under a nitrogen blanket.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>10 ppm; Skin =</td>
<td>10 ppm TWA; 35</td>
<td>10 ppm TWA; 35</td>
</tr>
<tr>
<td></td>
<td>potential</td>
<td>mg/m3 TWA 300</td>
<td>mg/m3 TWA</td>
</tr>
<tr>
<td></td>
<td>significant</td>
<td>ppm IDLH</td>
<td></td>
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<tr>
<td></td>
<td>contribution to</td>
<td>overall exposure</td>
<td>by the cutaneous</td>
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</tbody>
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OSHA Vacated PELs: N,N-Dimethylacetamide: 10 ppm TWA; 35 mg/m3 TWA

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: colorless
Odor: ammonia-like
pH: Not available
Vapor Pressure: 1.5 mm Hg @ 20 deg C
Vapor Density: 3.01 (air=1)
Evaporation Rate: 0.17 (butyl acetate=1)
Viscosity: 1.02 mPa @ 20 deg C
Boiling Point: 165 deg C (329.00°F)
Freezing/Melting Point: -20 deg C (-4.00°F)
Decomposition Temperature:
Solubility in water: Soluble
Specific Gravity/Density: 0.94 @ 20°C
Molecular Formula: C4H9NO
Molecular Weight: 87.12

Section 10 - Stability and Reactivity

Chemical Stability: Hygroscopic: absorbs moisture or water from the air.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials
Strong oxidizing agents, strong acids, ammonia, phenols, isocyanates, cresol, nonoxidizing mineral acids.
Hazardous Decomposition Products
Nitrogen oxides, carbon monoxide, carbon dioxide, acetic acid, dimethylamine.
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 127-19-5: AB7700000
RTECS:
CAS# 127-19-5: Draize test, rabbit, eye: 100 mg Mild;
Inhalation, mouse: LC50 = 7200 mg/m3;
Inhalation, rat: LC50 = 2475 ppm/1H;
Oral, mouse: LD50 = 4620 mg/kg;
Oral, rat: LD50 = 4300 mg/kg;
Skin, rabbit: LD50 = 2240 mg/kg;
Skin, rat: LD50 = >2 gm/kg;

Other: Inhalation 1 hour, LC50, female rat: 8.81 mg/L (data from DuPont).
Carcinogenicity: N,N-Dimethylacetamide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: 1500 mg/L; 96hr LC50; Flow-through
Other: Do not empty into drains.

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: TOXIC LIQUIDS, ORGANIC, N.O.S.
Hazard Class: 6.1
UN Number: UN2810
Packing Group: III
Canada TDG
Shipping Name: TOXIC LIQUID, ORGANIC, N.O.S.*
Hazard Class: 6.1
UN Number: UN2810
Packing Group: III

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:

R 61 May cause harm to the unborn child.
R 20/21 Harmful by inhalation and in contact with skin.

Safety Phrases:

S 53 Avoid exposure - obtain special instructions before use.
S 16 Keep away from sources of ignition - No smoking.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 127-19-5: 1

Canada

CAS# 127-19-5 is listed on Canada's DSL List
Canadian WHMIS Classifications: B3, D2A, D2B, D1B
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 127-19-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 127-19-5 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/12/1997
Revision #10 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.