SAFETY DATA SHEET

1. Identification

Product Name: N,N-Dimethylacetamide
Cat No.: AC396350000; AC396350010; AC396350025; AC396351000
Synonyms: No information available.
Recommended Use: Laboratory chemicals
Uses advised against: No information available

Details of the supplier of the safety data sheet

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Flammable liquids</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute dermal toxicity</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute Inhalation Toxicity - Vapors</td>
<td>Category 4</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Target Organs - Central nervous system (CNS).</td>
<td></td>
</tr>
<tr>
<td>Specific target organ toxicity - (repeated exposure)</td>
<td>Category 2</td>
</tr>
<tr>
<td>Target Organs - Liver, Kidney.</td>
<td></td>
</tr>
</tbody>
</table>

2. Hazard(s) Identification

Signal Word
Danger

Hazard Statements
Combustible liquid
Harmful in contact with skin
Harmful if inhaled
Causes serious eye irritation
May damage the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Precautionary Statements

Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear eye/face protection
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep cool

Response
IF exposed or concerned: Get medical attention/advice

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin
IF ON SKIN: Wash with plenty of soap and water
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse

Eyes
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.

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
None identified

Other hazards
WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Haz/Non-haz</th>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dimethyl acetamide</td>
<td>127-19-5</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Ingestion
Do not induce vomiting. Call a physician or Poison Control Center immediately.

Most important symptoms/effects
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Notes to Physician
Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media
No information available.

Flash Point
70°C / 158°F

Autoignition Temperature
490°C / 914°F

Explosion Limits
Upper 11.5 vol %
Lower 1.7 vol %

Sensitivity to Static Discharge
No information available

Specific Hazards Arising from the Chemical
Combustible material. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NOₓ).

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Environmental Precautions
Avoid release to the environment. See Section 12 for additional ecological Information.

Methods for Containment and Clean Up
Remove all sources of ignition. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.
7. Handling and storage

Handling
Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist. Do not ingest. Use spark-proof tools and explosion-proof equipment.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep under nitrogen.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>TWA: 10 ppm</td>
<td>(Vacated) TWA: 10 ppm</td>
<td>IDLH: 300 ppm</td>
</tr>
<tr>
<td></td>
<td>Skin</td>
<td>(Vacated) TWA: 35 mg/m³</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin</td>
<td>TWA: 35 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>TWA: 10 ppm</td>
<td>TWA: 10 ppm</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 36 mg/m³</td>
<td>TWA: 35 mg/m³</td>
<td>Skin</td>
</tr>
<tr>
<td></td>
<td>Skin</td>
<td>STEL: 50 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 15 ppm</td>
<td></td>
</tr>
</tbody>
</table>

Legend
ACGIH - American Conference of Governmental Hygienists
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
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 and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammonia-like</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>4 - 200 g/l aq. sol.</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-20°C / -4°F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>164 - 166°C / 327.2 - 330.8°F @ 760 mmHg</td>
</tr>
<tr>
<td>Flash Point</td>
<td>70°C / 158°F</td>
</tr>
</tbody>
</table>
9. Physical and chemical properties

Evaporation Rate  
<0.17 (Butyl Acetate = 1.0)

Flammability (solid, gas)  
Not applicable

Flammability or explosive limits  
Upper  
11.5 vol %
Lower  
1.7 vol %

Vapor Pressure  
1.7 mbar @ 25 °C

Vapor Density  
3.02

Relative Density  
0.937

Solubility  
Soluble in water

Partition coefficient; n-octanol/water  
No data available

Autoignition Temperature  
490°C / 914°F

Decomposition temperature  
No information available.

Viscosity  
1.02 mPa s @ 20 °C

Molecular Formula  
C4 H9 N O

Molecular Weight  
87.12

10. Stability and reactivity

Reactive Hazard  
None known, based on information available.

Stability  
Stable under normal conditions. Hygroscopic.

Conditions to Avoid  
Incompatible products. Heat, flames and sparks. Exposure to moisture.

Incompatible Materials  
Strong oxidizing agents

Hazardous Decomposition Products  
Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx)

Hazardous Polymerization  
Hazardous polymerization does not occur.

Hazardous Reactions  
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>4300 mg/kg (Rat)</td>
<td>2240 mg/kg (Rabbit)</td>
<td>2475 ppm (Rat) 1 h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 g/kg (Rat)</td>
<td>8.81 mg/L (Rat) 1 h</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products  
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation  
Irritating to eyes

Sensitization  
No information available.

Carcinogenicity  
The table below indicates whether each agency has listed any ingredient as a carcinogen

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>127-19-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>
Mutagenic Effects  
Not mutagenic in AMES Test

Reproductive Effects  
May cause harm to the unborn child.

Developmental Effects  
No information available.

Teratogenicity  
No information available.

STOT - single exposure  
Central nervous system (CNS).

STOT - repeated exposure  
Liver, Kidney.

Aspiration hazard  
No information available.

Symptoms / effects, both acute and delayed  
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Endocrine Disruptor Information  
No information available

Other Adverse Effects  
See actual entry in RTECS for complete information.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>EC50 &gt;500 mg/L/72h</td>
<td>500 mg/L LC50 96 h</td>
<td>EC50 = 2393 mg/L 30 min</td>
<td>EC50 &gt;500 mg/L/48h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EC50 = 4815 mg/L 5 min</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and Degradability  
Soluble in water, Persistence is unlikely, based on information available.

Bioaccumulation/ Accumulation  
No information available

Mobility  
Will likely be mobile in the environment due to its water solubility.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>0.8</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste Disposal Methods  
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT  
Not regulated

TDG  
Not regulated

IATA  
Not regulated

IMDG/IMO  
Not regulated
15. Regulatory Information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>204-826-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- **X** - Listed
- **E** - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- **F** - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- **N** - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- **P** - Indicates a commenced PMN substance
- **R** - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- **S** - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- **T** - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- **XU** - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- **Y1** - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- **Y2** - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA 12(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>Section 4</td>
</tr>
</tbody>
</table>

SARA 313

Not applicable

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>127-19-5</td>
<td>Developmental</td>
<td>-</td>
</tr>
</tbody>
</table>

State Right-to-Know
<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethyl acetamide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
DOT Marine Pollutant: N  
DOT Severe Marine Pollutant: N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade**  
Moderate risk, Grade 2

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**WHMIS Hazard Class**

B3  Combustible liquid  
D2A  Very toxic materials  
D2B  Toxic materials

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**16. Other information**

Prepared By  
Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date**

06-Oct-2009

**Revision Date**

25-Mar-2014

**Print Date**

25-Mar-2014

**Revision Summary**

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.
End of SDS