1. PRODUCT AND COMPANY IDENTIFICATION

Product name: N,N-Dimethylacetamide
Product Number: D5511
Brand: Sigma
Supplier: Sigma-Aldrich
Supplier Address: 3050 Spruce Street, SAINT LOUIS MO 63103, USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Preparation Safety - Americas Region
Telephone: 1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Combustible Liquid, Target Organ Effect, Toxic by inhalation., Harmful by skin absorption., Irritant, Teratogen

Target Organs
Liver, Kidney, Central nervous system, Bone marrow, Testes., Thymus.

Other hazards which do not result in classification
Rapidly absorbed through skin.

GHS Classification
Flammable liquids (Category 4)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 4)
Eye irritation (Category 2A)
Reproductive toxicity (Category 1B)

GHS Label elements, including precautionary statements

Pictogram

Signal word
Danger

Hazard statement(s)
H227 Combustible liquid
H312 Harmful in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H360 May damage fertility or the unborn child.

Precautionary statement(s)
P201 Obtain special instructions before use.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P305 + P351 + P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P311  Call a POISON CENTER or doctor/physician.

HMIS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard</td>
<td>2</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>*</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</td>
</tr>
<tr>
<td>Physical hazards</td>
<td>0</td>
</tr>
</tbody>
</table>

NFPA Rating

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health hazard</td>
<td>2</td>
</tr>
<tr>
<td>Fire</td>
<td>2</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>0</td>
</tr>
</tbody>
</table>

Potential Health Effects

- **Inhalation**: Toxic if inhaled. Causes respiratory tract irritation.
- **Skin**: Causes skin irritation.
- **Eyes**: Causes eye irritation.
- **Ingestion**: May be harmful if swallowed.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Formula**: $C_4H_9NO$

**Molecular Weight**: 87.12 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Dimethylacetamide</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>127-19-5</td>
</tr>
<tr>
<td>EC-No.</td>
<td>204-826-4</td>
</tr>
<tr>
<td>Index-No.</td>
<td>616-011-00-4</td>
</tr>
<tr>
<td>Registration number</td>
<td>01-2119459339-27-XXXX</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIREFIGHTING MEASURES

**Conditions of flammability**
Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store under inert gas. hygroscopic

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>127-19-5</td>
<td>TWA</td>
<td>10 ppm</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
</tbody>
</table>

Remarks
Liver damage Embryo/fetal damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen Danger of cutaneous absorption

| TWA                             | 10 ppm   | 35 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |

Skin designation The value in mg/m3 is approximate.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Immersion protection**
Material: butyl-rubber
Minimum layer thickness: 0.3 mm
Break through time: > 480 min
Material tested: Butoject® (Aldrich Z677647, Size M)

**Splash protection**
Material: Nature latex/chloroprene
Minimum layer thickness: 0.6 mm
Break through time: > 30 min
Material tested: Lapren® (Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Eye protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- **Form**: liquid, clear
- **Colour**: colourless

**Safety data**
- **pH**: 4 at 200 g/l at 20 °C (68 °F)
- **Melting point/freezing point**: Melting point/freezing point: -20 °C (-4 °F)
- **Boiling point**: 166 °C (331 °F) at 1,013 hPa (760 mmHg)
- **Flash point**: 70 °C (158 °F) - closed cup
- **Ignition temperature**: 345 °C (653 °F) at 999 - 1,011 hPa (749 - 758 mmHg) - Auto-flammability
- **Autoignition temperature**: no data available
- **Lower explosion limit**: 1.8 % (V)
- **Upper explosion limit**: 11.5 % (V)
- **Vapour pressure**: 2 hPa (2 mmHg) at 21.7 °C (71.1 °F)
- **Density**: 0.94 g/cm3 at 20 °C (68 °F)
- **Water solubility**: 1,000 g/l at 20 °C (68 °F) - completely miscible
- **Partition coefficient**: log Pow: -0.77
10. STABILITY AND REACTIVITY

Chemical stability
Hygroscopic. Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 5,680 mg/kg

Inhalation LC50
LC50 Inhalation - rat - 1 h - 2475 ppm
Remarks: Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Dermal LD50
LD50 Dermal - rabbit - 2,240 mg/kg

Other information on acute toxicity
No data available

Skin corrosion/irritation
Skin - rabbit - No skin irritation

Serious eye damage/eye irritation
Eyes - rabbit - Irritating to eyes. - Draize Test

Respiratory or skin sensitization
guinea pig - Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

No data available

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a
known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Teratogenicity**
May cause congenital malformation in the fetus.

Presumed human reproductive toxicant

**Specific target organ toxicity - single exposure (Globally Harmonized System)**
no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**
no data available

**Aspiration hazard**
no data available

**Potential health effects**

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Toxic if inhaled. Causes respiratory tract irritation.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Skin</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Causes eye irritation.</td>
</tr>
</tbody>
</table>

**Signs and Symptoms of Exposure**
impaired judgment, emotional instability, toxic psychosis, nystagmus, dysarthria, Ataxia.

**Synergistic effects**
no data available

**Additional Information**
RTECS: AB7700000

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### 12. ECOLOGICAL INFORMATION

**Toxicity**

<table>
<thead>
<tr>
<th>Type</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 - Leuciscus idus (Golden orfe) - &gt; 500 mg/l - 96 h</td>
</tr>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>Immobilization EC50 - Daphnia magna (Water flea) - &gt; 500 mg/l - 48 h</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td>static test EC50 - Desmodesmus subspicatus (green algae) - &gt; 500 mg/l - 72 h</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Type</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodegradability aerobic</td>
<td>Result: 77 - 83 % - Readily biodegradable. Method: OECD Test Guideline 302</td>
</tr>
</tbody>
</table>

**Bioaccumulative potential**
no data available

**Mobility in soil**
no data available

**PBT and vPvB assessment**
no data available

**Other adverse effects**
13. DISPOSAL CONSIDERATIONS

Product
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
NA-Number: 1993   Class: CBL   Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (N,N-Dimethylacetamide)
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Combustible Liquid, Target Organ Effect, Toxic by inhalation., Harmful by skin absorption., Irritant, Teratogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
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<td>N,N-Dimethylacetamide</td>
<td>127-19-5</td>
<td>2007-03-01</td>
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Pennsylvania Right To Know Components

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<td>N,N-Dimethylacetamide</td>
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New Jersey Right To Know Components

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</table>

California Prop. 65 Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.</td>
<td>CAS-No.</td>
<td>Revision Date</td>
</tr>
<tr>
<td>N,N-Dimethylacetamide</td>
<td>127-19-5</td>
<td>2010-06-11</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

Further information
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