# SAFETY DATA SHEET

Version 5.6
Revision Date 11/23/2017
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## 1. PRODUCT AND COMPANY IDENTIFICATION

### 1.1 Product identifiers

Product name : N,N-Dimethylacetamide

Product Number : ARK2190
Brand : Sigma-Aldrich
Index-No. : 616-011-00-4

CAS-No. : 127-19-5

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
Flammable liquids (Category 4), H227
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Eye irritation (Category 2A), H319
Reproductive toxicity (Category 1B), H360

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

| | |
|---|---|
| H227 | Combustible liquid. |
| H312 + H332 | Harmful in contact with skin or if inhaled |
| H319 | Causes serious eye irritation. |
| H360 | May damage fertility or the unborn child. |

Precautionary statement(s)

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |

| | |
|---|---|
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P264 | Wash skin thoroughly after handling. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P302 + P352 + P312 | IF ON SKIN: Wash with plenty of water.Call a POISON CENTER/doctor if you feel unwell. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| P363 | Wash contaminated clothing before reuse. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/ container to an approved waste disposal plant. |

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS** - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

| | | |
|---|---|---|
| Formula | : | CH3CON(CH3)2 |
| Molecular weight | : | 87.12 g/mol |
| CAS-No. | : | 127-19-5 |
| EC-No. | : | 204-826-4 |
| Index-No. | : | 616-011-00-4 |
| Registration number | : | 01-2119459339-27-XXXX |

**Hazardous components**

| Component | Classification | Concentration |
|---|---|---|
| **N,N-Dimethylacetamide** | | |
| | Flam. Liq. 4; Acute Tox. 4; Eye Irrit. 2A; Repr. 1B; H227, H312 + H332, H319, H360 | 90 - 100 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of 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. 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.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**
No data available

## 5. FIREFIGHTING MEASURES

**5.1 Extinguishing media**

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

**Unsuitable extinguishing media**
Do NOT use water jet.

**5.2 Special hazards arising from the substance or mixture**
No data available

**5.3 Advice for firefighters**
Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**
Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures**
Use personal protective equipment. Avoid breathing vapours, 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.
For personal protection see section 8.

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

**6.3 Methods and materials for containment and cleaning up**
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**
For disposal see section 13.

## 7. HANDLING AND STORAGE

**7.1 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.
For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**
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.

Hygroscopic.
Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

**7.3 Specific end use(s)**
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 Control parameters**

**Components with workplace control parameters**

| Component | CAS-No. | Value | Control parameters | Basis |
|---|---|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | TWA | 10.000000 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Liver damage<br>Embryo/fetal damage<br>Substances for which there is a Biological Exposure Index or Indices (see BEI® section)<br>Not classifiable as a human carcinogen<br>Danger of cutaneous absorption | | |
| | | TWA | 10.000000 ppm<br>35.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | Potential for dermal absorption | | |
| | | TWA | 10.000000 ppm<br>35.000000 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | Skin designation<br>The value in mg/m3 is approximate. | | |
| | | PEL | 10 ppm<br>35 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | Skin | | |

**Biological occupational exposure limits**

| Component | CAS-No. | Parameters | Value | Biological specimen | Basis |
|---|---|---|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | N-Methylacetamide | 30mg/g Creatinine | Urine | ACGIH - Biological Exposure Indices (BEI) |
| | Remarks | End of shift at end of workweek | | | |

**Derived No Effect Level (DNEL)**

| Application Area | Exposure routes | Health effect | Value |
|---|---|---|---|
| Workers | Skin contact | Long-term systemic effects | 13.6mg/kg BW/d |
| Workers | Inhalation | Long-term systemic effects | 36 mg/m3 |

**Predicted No Effect Concentration (PNEC)**

| Compartment | Value |
|---|---|
| Soil | 0.15 mg/kg |
| Marine water | 0.0966 mg/l |
| Fresh water | 0.5 mg/l |
| Fresh water sediment | 2.27 mg/kg |
| Sewage treatment plant | 485 mg/l |
| Aquatic intermittent release | 5 mg/l |

## 8.2 Exposure controls

**Appropriate engineering controls**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment**

**Eye/face 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 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.

**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.

**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).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| a) | Appearance | Form: liquid, clear<br>Colour: colourless |
| b) | Odour | Ammonia odor |
| c) | Odour Threshold | No data available |
| d) | pH | 4 at 200 g/l at 20 °C (68 °F) |
| e) | Melting point/freezing point | Melting point/freezing point: -20 °C (-4 °F) |
| f) | Initial boiling point and boiling range | 166 °C (331 °F) at 1,013 hPa (760 mmHg) |
| g) | Flash point | 70 °C (158 °F) - closed cup |
| h) | Evaporation rate | No data available |
| i) | Flammability (solid, gas) | No data available |
| j) | Upper/lower flammability or explosive limits | Upper explosion limit: 11.5 %(V)<br>Lower explosion limit: 1.8 %(V) |
| k) | Vapour pressure | 2 hPa (2 mmHg) at 21.7 °C (71.1 °F)<br>11.8 hPa (8.9 mmHg) at 50 °C (122 °F) |
| l) | Vapour density | 3.01 - (Air = 1.0) |
| m) | Relative density | 0.94 g/cm3 at 20 °C (68 °F) |
| n) | Water solubility | 1,000 g/l at 20 °C (68 °F) - completely miscible |
| o) | Partition coefficient: n-octanol/water | log Pow: -0.77 |
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | No data available |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

### 9.2 Other safety information

| | |
|---|---|
| Dissociation constant | -0.19 at 25 °C (77 °F) |
| Relative vapour density | 3.01 - (Air = 1.0) |

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**
No data available

**10.2 Chemical stability**
Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**
No data available

**10.4 Conditions to avoid**
Heat, flames and sparks.

**10.5 Incompatible materials**
Strong oxidizing agents

**10.6 Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)
Other decomposition products - No data available
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

**Acute toxicity**
LD50 Oral - Rat - 5,680 mg/kg
(OECD Test Guideline 401)

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

LD50 Dermal - Rabbit - 2,240 mg/kg

No data available

**Skin corrosion/irritation**
Skin - Rabbit
Result: No skin irritation

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: Irritating to eyes.
(Draize Test)

**Respiratory or skin sensitisation**
- Guinea pig
Did not cause sensitisation 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**
May cause congenital malformation in the fetus.
Presumed human reproductive toxicant

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

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Additional Information**
RTECS: Not available

impaired judgment, emotional instability, toxic psychosis, nystagmus, dysarthria, Ataxia.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence
Liver - Irregularities - Based on Human Evidence

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | Immobilization EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h<br>(OECD Test Guideline 202) |
| Toxicity to algae | static test EC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h |

### 12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 14 d<br>Result: 77 - 83 % - Readily biodegradable.<br>(OECD Test Guideline 302) |

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available

### 12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

No data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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: NONE Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (N,N-Dimethylacetamide)

Reportable Quantity (RQ):
Poison Inhalation Hazard: No

**IMDG**
Not dangerous goods

**IATA**
Not dangerous goods

## 15. REGULATORY INFORMATION

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

**SARA 313 Components**
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**

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | 1993-04-24 |

**Pennsylvania Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | 1993-04-24 |

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | 1993-04-24 |

**New Jersey Right To Know Components**

| | CAS-No. | Revision Date |
|---|---|---|
| N,N-Dimethylacetamide | 127-19-5 | 1993-04-24 |

**California Prop. 65 Components**

| | CAS-No. | Revision Date |
|---|---|---|
| WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.<br>N,N-Dimethylacetamide | 127-19-5 | 2013-12-20 |

## 16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

| | |
|---|---|
| Acute Tox. | Acute toxicity |
| Eye Irrit. | Eye irritation |
| Flam. Liq. | Flammable liquids |
| H227 | Combustible liquid. |
| H312 | Harmful in contact with skin. |
| H312 + H332 | Harmful in contact with skin or if inhaled |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |

**HMIS Rating**

| | |
|---|---|
| Health hazard: | 2 |
| Chronic Health Hazard: | * |
| Flammability: | 2 |
| Physical Hazard | 0 |

**NFPA Rating**

| | |
|---|---|
| Health hazard: | 2 |

| | |
|---|---|
| Fire Hazard: | 2 |
| Reactivity Hazard: | 0 |

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

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