



N, N-DIMETHYLACETAMIDE

MATERIAL SAFETY DATA SHEET

1. Product Identification

Synonyms: Acetic acid, dimethylamide; dimethylacetone amide; DMAC; acetyl dimethylamide

CAS No.: 127-19-5

Molecular Weight: 87.12

Chemical Formula: (CH₃)₂NCOCH₃

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Dimethyl Acetamide	127-19-5	99 - 100%
Yes		

3. Hazards Identification

Emergency Overview

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. COMBUSTIBLE LIQUID AND VAPOR. AFFECTS CENTRAL NERVOUS SYSTEM AND LIVER.

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 2 - Moderate (Life)

Flammability Rating: 2 - Moderate

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD;
PROPER GLOVES; CLASS B EXTINGUISHER

Storage Color Code: Red (Flammable)

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Excessive inhalation of vapor may cause symptoms that parallel ingestion, depending upon the duration and level of the exposure.

Ingestion:

Causes irritation to the gastrointestinal tract. May cause abdominal spasm, vomiting, sweating, weakness, and headache. Large oral doses may cause depression, lethargy, disorientation, visual and auditory hallucinations, perceptual distortions, delusions, emotional detachment, and kidney damage.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. Absorption through skin is rapid and a significant exposure hazard with symptoms paralleling ingestion.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

Prolonged or repeated exposure may cause liver damage with yellow jaundice. Reproductive effects from exposure have been induced in laboratory animals.

Aggravation of Pre-existing Conditions:

Persons with pre-existing liver damage may be more susceptible to the effects of this material.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

5. Fire Fighting Measures

Fire:

Flash point: 66C (151F)

Autoignition temperature: 490C (914F)

Flammable limits in air % by volume:

l_{el}: 1.8; u_{el}: 11.5

Combustible Liquid and Vapor! (l_{el} @ 100C ; u_{el} @ 160C)

Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Vapors can flow along surfaces to distant ignition source and flash back. Sealed containers may rupture when heated. Contact with strong oxidizers may cause fire.

Fire Extinguishing Media:

Dry chemical, foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool. Do not use halogenated extinguishing media. Direct stream of water can scatter and spread flames.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer!

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

Dimethylacetamide:

-OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA) skin

-ACGIH Threshold Limit Value (TLV): 10 ppm (TWA) skin, A4 - Not classifiable as a human carcinogen.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-facepiece respirator, airtight hood, or full-facepiece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Recommended glove and clothing material: Butyl rubber.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Clear, colorless liquid.

Odor:

Faint ammonia odor.

Solubility:

Miscible in water.

Specific Gravity:

0.94

pH:

No information found.

% Volatiles by volume @ 21C (70F):

100

Boiling Point:

166C (331F)

Melting Point:

-20C (-4F)

Vapor Density (Air=1):

3.0

Vapor Pressure (mm Hg):

1.5 @ 20C (68F)

Evaporation Rate (BuAc=1):

< 0.17

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Burning may produce ammonia, carbon monoxide, carbon dioxide, nitrogen oxides. May also produce dimethylamine.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Carbon tetrachloride, oxidizing agents, halogenated compounds, iron plus halogenated compounds. Attacks plastic and rubber. Temperatures above 350C (622F) cause decomposition and development of pressure in closed containers.

Conditions to Avoid:

Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

Toxicological Data:

Dimethylacetamide: oral rat LD50: 4300 mg/kg; skin rabbit LD50: 2240 mg/kg; inhalation rat LC50: 2475 ppm/1H; investigated as a mutagen, reproductive effector.

Reproductive Toxicity:

Has shown some evidence of reproductive effects in laboratory animals.

-----\Cancer Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Dimethyl Acetamide (127-19-5)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material is expected to leach into groundwater. When released into water, this material is not expected to evaporate significantly. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient TSCA EC Japan
Australia

Dimethyl Acetamide (127-19-5) Yes Yes Yes Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient Korea DSL NDSL Phil. --Canada--

Dimethyl Acetamide (127-19-5) Yes Yes No Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient RQ TPQ List Chemical -SARA 302- -SARA 313--
Catg. -----

Dimethyl Acetamide (127-19-5) No No No No

-----\Federal, State & International Regulations - Part 2\-----

Ingredient CERCLA -RCRA- -TSCA-

Dimethyl Acetamide (127-19-5) No 261.33 8 (d) Yes

Chemical Weapons Convention: No TSCA 12(b): Yes CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 2 Reactivity: 0

Label Hazard Warning:

WARNING! HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. COMBUSTIBLE LIQUID AND VAPOR. AFFECTS CENTRAL NERVOUS SYSTEM AND LIVER.

Label Precautions:

Avoid breathing vapor.
Avoid contact with eyes, skin and clothing.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Keep away from heat and flame.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. In all cases, get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

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