# SAFETY DATA SHEET

**Australian statement of hazardous nature :** Classified as hazardous according to criteria of Safe Work Australia

## Section 1 - Identification

| | |
|---|---|
| **Product Name** | **N,N-Dimethylacetamide** |
| **CAS No** | 127-19-5 |

| | |
|---|---|
| **Product Code** | **AJA3051, MKT5407, TOKD0641** |
| **Address** | ThermoFisher Scientific Australia Pty Ltd<br>5 Caribbean Drive, Scoresby<br>VICTORIA 3179, Australia |
| **Emergency Tel.** | **CHEMTREC®**<br>**03 9757 4559 or +613 9757 4559** |
| **Telephone / Fax Numbers** | Tel: 1300 735 292<br>Fax: 1800 067 639 |
| **E-mail address** | ANZinfo@thermofisher.com |

| | |
|---|---|
| **Recommended Use** | Laboratory chemicals. |
| **Uses advised against** | This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern. |

## Section 2 - Hazard(s) Identification

**Classification under Safe Work Australia**

Classified as hazardous according to criteria of Safe Work Australia

**Physical hazards**
No hazards identified

**Health hazards**

| | |
|---|---|
| Acute Dermal Toxicity | Category 4 |
| Acute Inhalation Toxicity - Vapors | Category 4 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Reproductive Toxicity | Category 1B |

**Environmental hazards**
No hazards identified

**Label Elements**

Exclamation Mark

Health Hazard

**Signal Word** **Danger**

**Hazard Statements**
H319 - Causes serious eye irritation
H360 - May damage fertility or the unborn child
H312 + H332 - Harmful in contact with skin or if inhaled

**Precautionary Statements**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection/ face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a POISON CENTER or doctor if you feel unwell
P363 - Wash contaminated clothing before reuse
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other information**

This product does not contain any known or suspected endocrine disruptors

# Section 3 - Composition and Information on Ingredients

| Component | CAS No | Weight % |
|---|---|---|
| Dimethyl acetamide | 127-19-5 | >95 |

# Section 4 - First Aid Measures

**Inhalation** Remove to fresh air. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. If not breathing, give artificial respiration.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

| | |
|---|---|
| | Immediate medical attention is required. |
| **Self-Protection of the First Aider** | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| **First Aid Facilities** | Eyewash, safety shower and washroom. |
| **Most important symptoms and effects** | Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting |
| **Notes to Physician** | Treat symptomatically. Symptoms may be delayed. |

# Section 5 - Fire Fighting Measures

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**
No information available.

**Hazardous Decomposition Products**
Carbon monoxide (CO), Carbon dioxide ($CO_2$), Nitrogen oxides (NOx).

**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.

**Special protective equipment and precautions for fire fighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

# Section 6 - Accidental Release Measures

**Emergency procedures**
Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing.

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

**Methods for Containment and Clean Up**

**Clean-up methods - small spillage**
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.

**Clean-up methods - large spillage**
Typically only supplied is small quantiites as packaged goods.
If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

**Reference to Other Sections**
Refer to protective measures listed in Sections 8 and 13.

# Section 7 - Handling and Storage

**Precautions for Safe Handling**
Wear personal protective equipment/face protection. Keep away from open flames, hot surfaces and sources of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Use spark-proof tools and explosion-proof equipment.

**Conditions for Safe Storage, Including any Incompatibilities**
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Keep under nitrogen.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals
AS 1940-2004 - The storage and handling of flammable and combustible liquids

# Section 8 - Exposure Controls and Personal Protection

**Exposure limits**
**AUS** - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia
**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.
**UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.
**DE** - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011
**NZ** - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

| Component | Australia | New Zealand WEL | ACGIH TLV | The United Kingdom | Germany |
|---|---|---|---|---|---|
| Dimethyl acetamide | TWA: 10 ppm<br>TWA: 36 mg/m³ | TWA: 5 ppm<br>TWA: 18 mg/m³<br>Skin | TWA: 10 ppm<br>Skin | STEL: 20 ppm 15 min<br>STEL: 72 mg/m³ 15 min<br>TWA: 10 ppm 8 hr<br>TWA: 36 mg/m³ 8 hr<br>Skin | TWA: 5 ppm (8 Stunden). AGW - exposure factor 2<br>TWA: 18 mg/m³ (8 Stunden). AGW - exposure factor 2<br>TWA: 5 ppm (8 Stunden). MAK<br>TWA: 18 mg/m³ (8 Stunden). MAK<br>Höhepunkt: 10 ppm<br>Höhepunkt: 36 mg/m³<br>Haut |

**Biological limit values**
**UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

| Component | Australia | New Zealand | European Union | United Kingdom | Germany |
|---|---|---|---|---|---|
| Dimethyl acetamide | | | | N-methylacetamide: 100 mmol/mol creatinine urine post shift | N,N-Methylacetamide plus N-Hydroxymethyl-N-methylacetamide: 25 mg/g Creatinine urine (c )<br>N,N-Methylacetamide plus N-Hydroxymethyl-N-methylacetamide: 25 mg/g Creatinine urine (for long-term exposures: at the end of the shift after several shifts ) |

**Exposure Controls**
**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.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|---|---|---|---|---|
| Butyl rubber | > 480 minutes | 0.635 mm | AS/NZS 2161 | As tested under EN374-3 Determination of Resistance to Permeation by Chemicals |
| Neoprene gloves | > 84 minutes | 0.45 mm | | |

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Repiratory Protection** Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387 (or AUS/NZ equivalent)

**Recommended half mask:-** Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent) When RPE is used a face piece Fit Test should be conducted

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

**Environmental exposure controls** No information available.

# Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

| | | |
|---|---|---|
| **Appearance** | Colorless | |
| **Physical State** | Liquid | |
| **Odor** | Ammonia-like | |
| **Odor Threshold** | No data available | |
| **pH** | 4 | 200 g/l aq. sol |
| **Melting Point/Range** | -20 °C / -4 °F | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | 164 - 166 °C / 327.2 - 330.8 °F | @ 760 mmHg |
| **Flash Point** | 70 °C / 158 °F | **Method -** No information available |
| **Evaporation Rate** | <0.17 (Butyl Acetate = 1.0) | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | **Lower** 1.7 vol% | |
| | **Upper** 11.5 vol% | |
| **Vapor Pressure** | 1.7 mbar @ 25 °C | |
| **Vapor Density** | 3.02 | (Air = 1.0) |
| **Specific Gravity / Density** | 0.937 | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Soluble | |
| **Solubility in other solvents** | No information available | |
| **Partition Coefficient (n-octanol/water)** | | |

| Component | log Pow |
|---|---|
| Dimethyl acetamide | 0.8 |

**Autoignition Temperature** 490 °C / 914 °F
**Decomposition Temperature** No data available
**Viscosity** 1.02 mPa s @ 20 °C
**Explosive Properties** explosive air/vapour mixtures possible
**Oxidizing Properties** No information available

**Other information**
**Molecular Formula** C4 H9 N O
**Molecular Weight** 87.12

# Section 10 - Stability and Reactivity

**Reactivity** None known, based on information available

**Stability** Stable under normal conditions. Hygroscopic.

**Conditions to Avoid** Incompatible products, Heat, flames and sparks, Exposure to moisture, Keep away from open flames, hot surfaces and sources of ignition.

**Incompatible Materials** Strong oxidizing agents.

**Hazardous Decomposition Products** Carbon monoxide (CO). Carbon dioxide ($CO_2$). Nitrogen oxides (NOx).

**Hazardous Polymerization** Hazardous polymerization does not occur.

# Section 11 - Toxicological Information

**Information on Toxicological Effects**

**Product Information**

**(a) acute toxicity;**
**Oral** Based on available data, the classification criteria are not met
**Dermal** Category 4
**Inhalation** Category 4

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Dimethyl acetamide | LD50 = 4263 mg/kg ( Rat ) | LD50 = 2100 mg/kg (Rabbit) OECD 402 | LC50 = 8.81 mg/L ( Rat ) 1 h |

**(b) skin corrosion/irritation;** Based on available data, the classification criteria are not met

**(c) serious eye damage/irritation;** Category 2

**(d) respiratory or skin sensitization;**
**Respiratory** Based on available data, the classification criteria are not met
**Skin** Based on available data, the classification criteria are not met

**(e) germ cell mutagenicity;** Based on available data, the classification criteria are not met

Not mutagenic in AMES Test

**(f) carcinogenicity;** Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

| Component | Australia | New Zealand | New South Wales | Western Australia | IARC | EU | UK | Germany |
|---|---|---|---|---|---|---|---|---|
| Dimethyl acetamide | | | | | Group 2B | | | |

**(g) reproductive toxicity;** Category 1B

**Reproductive Effects** May cause harm to the unborn child

**(h) STOT-single exposure;** Based on available data, the classification criteria are not met

**(i) STOT-repeated exposure;** Based on available data, the classification criteria are not met

**Target Organs** None known.

**(j) aspiration hazard;** Based on available data, the classification criteria are not met

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

# Section 12 - Ecological Information

**Ecotoxicity effects** Do not empty into drains. .

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---|---|---|---|---|
| Dimethyl acetamide | | EC50 >500 mg/L/48h | EC50 >500 mg/L/72h | EC50 = 2393 mg/L 30 min<br>EC50 = 4815 mg/L 5 min |

**Persistence and Degradability** Readily biodegradable

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

**Bioaccumulative Potential** Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Dimethyl acetamide | 0.8 | No data available |

**Mobility** The product is water soluble, and may spread in water systems. : Will likely be mobile in the environment due to its water solubility Highly mobile in soils

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Ozone Depletion Potential** This product does not contain any known or suspected substance

# Section 13 - Disposal Considerations

**Waste from Residues/Unused Products** Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Chemical wastes should be disposed through a licensed commercial waste collection service. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

# Section 14 - Transport Information

**IMDG/IMO** Not regulated

**ADG** Not regulated

**IATA** Not regulated

**Environmental hazards** No hazards identified

**Special Precautions** No special precautions required

**Additional information** None known

# Section 15 - Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National Regulations** **Australia**

See section 8 for national exposure control parameters.

**Standard for the Uniform Scheduling of Medicines and Poisons**
Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

| Component | Standard for the Uniform Scheduling of Medicines and Poisons |
|---|---|
| Dimethyl acetamide - 127-19-5 | Schedule 5 listed - in preparations<br>Schedule 6 listed - except when included in Schedule 5 |

**Australian Industrial Chemicals Introduction Scheme (AICIS)**

| Component | Australian Industrial Chemicals Introduction Scheme (AICIS) | Additional information |
|---|---|---|
| Dimethyl acetamide - 127-19-5 | Present | - |

**Australian - Illicit Drug Precursors/Reagents Substance List**
This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

**Chemicals of Security Concern**
This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

**National pollutant inventory** Not applicable

**Prohibition or notification/licensing requirements**
Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

**International Inventories**

| Component | AICS | NZIoC | EINECS | ELINCS | TSCA | DSL | NDSL | PICCS | ENCS | ISHL | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dimethyl acetamide | X | X | 204-826-4 | - | X | X | - | X | X | X | X | KE-11114 |

**Legend:** X - Listed. '-' - Not Listed. **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**International Regulations**

**Ozone Depletion Potential** This product does not contain any known or suspected substance

**Persistent Organic Pollutant** This product does not contain any known or suspected substance

**Rotterdam Convention (PIC)** Not applicable

**Basel convention on the control of transboundary movements of hazardous wastes and their dispoal**
Not applicable.

| Component | CAS No | OECD HPV | Restriction of Hazardous Substances (RoHS) | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|---|---|---|---|---|---|
| Dimethyl acetamide | 127-19-5 | Listed | Not applicable | Not applicable | Not applicable |

**Authorisation/Restrictions according to EU REACH**

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|
| Dimethyl acetamide | - | Use restricted. See entry 72. (see link for restriction details)<br>Use restricted. See entry 30. (see link for restriction details)<br>Use restricted. See entry 75. (see link for restriction details) | SVHC Candidate list - Toxic for reproduction (Article 57 c) |

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

*https://echa.europa.eu/authorisation-list*
*https://echa.europa.eu/candidate-list-table*
*https://echa.europa.eu/substances-restricted-under-reach*

# Section 16 - Other Information

**Legend**

**AICS** - Australian Inventory of Chemical Substances
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**IECSC** - Chinese Inventory of Existing Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**TWA** - Time Weighted Average
**IARC** - International Agency for Research on Cancer
**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association
**MARPOL** - International Convention for the Prevention of Pollution from Ships
**NZIoC** - New Zealand Inventory of Chemicals
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**ENCS** - Japanese Existing and New Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**CAS** - Chemical Abstracts Service
**ACGIH** - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code
**ADG** - Australian Code for the Transport of Dangerous Goods by Road and Rail

**NZS 5433:2020** - Transport of Dangerous Goods on Land
**LD50** - Lethal Dose 50%
**EC50** - Effective Concentration 50%
**WEL** - Workplace Exposure Limit
**DNEL** - Derived No Effect Level
**POW** - Partition coefficient Octanol:Water
**vPvB** - very Persistent, very Bioaccumulative
**VOC** - (Volatile Organic Compound)
**OECD** - Organisation for Economic Co-operation and Development
**LC50** - Lethal Concentration 50%
**ATE** - Acute Toxicity Estimate
**RPE** - Respiratory Protective Equipment
**NOEC** - No Observed Effect Concentration
**BCF** - Bioconcentration factor
**PBT** - Persistent, Bioaccumulative, Toxic

**Key literature references and sources for data**
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Training Advice**
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.
Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

| | |
|---|---|
| **Revision Date** | 12-Mar-2025 |
| **Revision Summary** | Update to GHS format. |

**This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).**

**Disclaimer**

**The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text**

# End of Safety Data Sheet