

Classified as hazardous according to criteria of EPA New Zealand

## Section 1 - Identification

**Product Name** Dimethylformamide

<b>Product Code</b>	ACR11622, ACR1677, ACR21058, ACR27960, ACR32687, ACR34843, ACR35483, ACR42364, AJA2217, AJA231, AJA2540, ALF022915, ALF039117, ALF043465, FSBBP1160, FSBD/3840, FSBD/3841, FSBD/3842, FSBD/3846, FSBD/3847, FSBD/3848, PIE20673, THCTS-20672, THCTS-20673
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<b>Emergency Tel.</b>	<b>CHEMTREC®</b> <b>09 980 6780 or +64 9 980 6780</b>
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**Recommended Use** Laboratory chemicals.

## Section 2 - Hazard(s) Identification

### Classification under Work Safe New Zealand

- 3.1C - Flammable liquids: medium hazard
- 6.1D - Substances that are acutely toxic (Oral)
- 6.1D - Substances that are acutely toxic (Dermal)
- 6.3B - Substances that are mildly irritating to the skin
- 6.4A - Substances that are irritating to the eye
- 6.8A - Substances that are known or presumed human reproductive or developmental toxicants
- 6.9A - Substances that are toxic to human target organs or systems
- 6.9B - Substances that are harmful to human target organs or systems
- 9.3C - Substances that are harmful to terrestrial vertebrates

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**HSNO Approval Number** HSR001133

### GHS Classification

#### Physical hazards

Flammable liquids Category 3

#### Health hazards

Acute Oral Toxicity Category 4  
 Acute Dermal Toxicity Category 4  
 Acute Inhalation Toxicity - Vapors Category 4  
 Skin Corrosion/Irritation Category 3

Serious Eye Damage/Eye Irritation  
Reproductive Toxicity

Category 2  
Category 1B Category 1

#### **Environmental hazards**

Acute aquatic toxicity  
Chronic aquatic toxicity

Category 1  
Category 1

#### **Label Elements**



**Signal Word**

**Danger**

#### **Hazard Statements**

H226 - Flammable liquid and vapor  
H302 - Harmful if swallowed  
H312 - Harmful in contact with skin  
H316 - Causes mild skin irritation  
H319 - Causes serious eye irritation  
H360 - May damage fertility or the unborn child  
H433 - Harmful to terrestrial vertebrates

#### **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/sparks/open flames/hot surfaces. - No smoking  
P233 - Keep container tightly closed  
P240 - Ground/bond container and receiving equipment  
P242 - Use non-sparking tools  
P243 - Take precautionary measures against static discharge  
P261 - Avoid breathing 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  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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/physician if you feel unwell  
P363 - Wash contaminated clothing before reuse  
P370 + P378 - In case of fire: Use CO<sub>2</sub>, dry chemical or foam for extinction  
P403 + P235 - Store in a well-ventilated place. Keep cool  
P501 - Dispose of contents/ container to an approved waste disposal plant

#### **Other information**

No information available

## **Section 3 - Composition and Information on Ingredients**

Component	CAS-No	Weight %
Dimethylformamide	68-12-2	100

## Section 4 - First Aid Measures

<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
<b>First Aid Facilities</b>	Eyewash, safety shower and washroom.
<b>Most important symptoms and effects</b>	Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically.

## Section 5 - Fire Fighting Measures

### Suitable Extinguishing Media

Water mist may be used to cool closed containers.

### Extinguishing media which must not be used for safety reasons

No information available.

### Hazardous Combustion Products

#### Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### 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

Remove all sources of ignition. Take precautionary measures against static discharges.

### Environmental Precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

### Methods for Containment and Clean Up

Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

### Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## Section 7 - Handling and Storage

### Precautions for Safe Handling

Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

**Conditions for Safe Storage, Including any Incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

AS 1940-2004 - The storage and handling of flammable and combustible liquids does not apply to this product. It is covered by the ADG Code Class 3 exclusion clause (i.e. SP No 144 An aqueous solution containing not more than 24% alcohol by volume is not subject to the ADG Code, AS1940 section 1.2). Refer to AS1940 to ensure compliance of individual storage and handling facilities.

## Section 8 - Exposure Controls and Personal Protection

**Exposure limits**

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	New Zealand WEL
Dimethylformamide	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> Skin

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. 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
Nitrile rubber, Neoprene, Natural rubber, PVC.	See manufacturers recommendations	-	AS/NZS 2161.1	(minimum requirement)

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 compatibility, 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**

Long sleeved clothing

**Respiratory 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 respiratory 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**

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## Section 9 - Physical and Chemical Properties

**Information on basic physical and chemical properties**

<b>Appearance</b>	Clear	
<b>Physical State</b>	Liquid	
<b>Odor</b>	No information available	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	Not applicable	
<b>Melting Point/Range</b>	-61 °C / -77.8 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	153 °C / 307.4 °F	
<b>Flash Point</b>	58 °C / 136.4 °F	<b>Method</b> - No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	No information available	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Dimethylformamide	-1.028	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>	No information available	explosive air/vapour mixtures possible
<b>Oxidizing Properties</b>	No information available	
<b>Other information</b>		
<b>Molecular Formula</b>	HCON(CH <sub>3</sub> ) <sub>2</sub>	
<b>Molecular Weight</b>	73.09	

**Section 10 - Stability and Reactivity**

<b>Reactivity</b>	None known, based on information available
<b>Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Keep away from open flames, hot surfaces and sources of ignition.
<b>Hazardous Decomposition Products</b>	None under normal use conditions.
<b>Hazardous Polymerization</b>	No information available.

**Section 11 - Toxicological Information****Information on Toxicological Effects****Product Information****(a) acute toxicity;**

<b>Oral</b>	Based on available data, the classification criteria are not met
<b>Dermal</b>	Category 4
<b>Inhalation</b>	Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
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Dimethylformamide	3040 mg/kg ( Rat )	1500 mg/kg (Rabbit) 3.2 g/kg ( Rat )	>5.58 mg/L/4h (Rat)
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(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

Skin

Based on available data, the classification criteria are not met

Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
Dimethylformamide 68-12-2 ( 100 )	Guinea Pig Maximisation Test (GPMT)	guinea pig	- non-sensitising

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

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

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

Component	Australia	New Zealand	New South Wales	Western Australia	IARC	EU	UK	Germany
Dimethylformamide					Group 2A			

(g) reproductive toxicity; Category 1B

(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

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Dimethylformamide	Pimephales promelas: LC50 = 10.6 g/L/96h Onchorhynchus mykiss: LC50 = 9.8 g/L/96h Lepomis macrochirus: LC50 = 6.3 g/L/96h	EC50 = 7500 mg/L/48h	EC50 = 7500 mg/L/96h	EC50 = 2000 mg/L 5 min EC50 = 570 mg/L 240 h

Persistence and Degradability No information available

Persistence Persistence is unlikely.

Component	Degradability
Dimethylformamide 68-12-2 ( 100 )	100 % (OECD 301E (21d))

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Dimethylformamide	-1.028	0.3 - 1.2 OECD 305C

Mobility No information available. Is not likely mobile in the environment due its low water solubility and propensity to bind to soil particles

### Endocrine Disruptor Information

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Dimethylformamide	Group III Chemical		

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

<b>Waste from Residues/Unused Products</b>	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.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.
<b>Other Information</b>	Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

## Section 14 - Transport Information

### IMDG/IMO

<b>UN-No</b>	UN2265
<b>Proper Shipping Name</b>	N,N-DIMETHYLFORMAMIDE
<b>Technical Shipping Name</b>	Dimethyl formamide
<b>Hazard Class</b>	3
<b>Packing Group</b>	III

### NZS 5433:2012

<b>UN-No</b>	UN2265
<b>Proper Shipping Name</b>	N,N-DIMETHYL-FORMAMIDE
<b>Technical Shipping Name</b>	Dimethyl formamide
<b>Hazard Class</b>	3
<b>Packing Group</b>	III

Component	Hazchem Code
Dimethylformamide 68-12-2 ( 100 )	2Y

### IATA

<b>UN-No</b>	UN2265
<b>Proper Shipping Name</b>	N,N-DIMETHYLFORMAMIDE
<b>Technical Shipping Name</b>	Dimethyl formamide
<b>Hazard Class</b>	3
<b>Packing Group</b>	III

<b>Environmental hazards</b>	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
<b>Special Precautions</b>	No special precautions required
<b>Additional information</b>	None known

## Section 15 - Regulatory Information

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

Component	HSNO Approval Number
Dimethylformamide	HSR001133

**International Inventories** X = listed

Component	NZIoC	AICS	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	KECL
Dimethylformamide	X	X	200-679-5	-	X	X	-	X	X	X	KE-1141 1

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

## Section 16 - Other Information

This safety data sheet complies with the requirements of WorkSafe New Zealand Regulations

### Legend

<b>AICS</b> - Australian Inventory of Chemical Substances	<b>NZIoC</b> - New Zealand Inventory of Chemicals
<b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory	<b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
<b>DSL/NDSL</b> - Canadian Domestic Substances List/Non-Domestic Substances List	<b>ENCS</b> - Japanese Existing and New Chemical Substances
<b>IECSC</b> - Chinese Inventory of Existing Chemical Substances	<b>KECL</b> - Korean Existing and Evaluated Chemical Substances
<b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances	<b>CAS</b> - Chemical Abstracts Service
<b>TWA</b> - Time Weighted Average	<b>ACGIH</b> - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC)
<b>IARC</b> - International Agency for Research on Cancer	<b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code
<b>ICAO/IATA</b> - International Civil Aviation Organization/International Air Transport Association	<b>OECD</b> - Organisation for Economic Co-operation and Development
<b>MARPOL</b> - International Convention for the Prevention of Pollution from Ships	<b>LC50</b> - Lethal Concentration 50%
<b>NZS 5433:2012</b> - Transport of Dangerous Goods on Land	<b>ATE</b> - Acute Toxicity Estimate
<b>LD50</b> - Lethal Dose 50%	<b>RPE</b> - Respiratory Protective Equipment
<b>EC50</b> - Effective Concentration 50%	<b>NOEC</b> - No Observed Effect Concentration
<b>WEL</b> - Workplace Exposure Limit	<b>BCF</b> - Bioconcentration factor
<b>DNEL</b> - Derived No Effect Level	<b>PBT</b> - Persistent, Bioaccumulative, Toxic
<b>POW</b> - Partition coefficient Octanol:Water	
<b>vPvB</b> - very Persistent, very Bioaccumulative	
<b>VOC</b> (volatile organic compound)	

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Training Advice

Chemical incident response training.

### Revision Date

04-Jul-2020

### Revision Summary

Not applicable.

### 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