



Safety Data Sheet

Date of Issue: 01.10.2020

Date of Expiry: 01.10.2025

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Distributor Name : **ECP Limited**
Address : PO Box 34125, Birkenhead, Auckland 0746
Telephone : +64 9 480 4386
Facsimile : +64 9 480 4385
Emergency phone number : 0800 243 622 (24 hours)

Supplier Name : **Avantor Performance Materials, Inc**
Address : 3477 Corporate Parkway, Suite 200, Center Valley, PA 18034

Product	N,N-Dimethyl Formamide			Code	4929 , 9221
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
68-12-2	HSR001133	2265	3	III	

Recommended use : Laboratory Investigations

2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 4), H312
Eye irritation (Category 2), H319
Reproductive toxicity (Category 1B), H360D

2.2 GHS Label elements, including precautionary statements



Signal Word : **Danger**

Hazard statement(s)

H226 Flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled
H319 Causes serious eye irritation.
H360D May damage the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.
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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

2.3 Other hazards

Rapidly absorbed through skin.

3: Composition/information on ingredients

3.1 Chemical characterisation: Substances

CAS No. Designation : 68-12-2 Dimethylformamide

Identification number(s):

EC number : 200-679-5

Index number : 616-001-00-X

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.

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.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO_x)

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 an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. 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

Store in cool place. 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.

Handle and store under inert gas.

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 critical values that require monitoring at the workplace:

68-12-2 Dimethylformamide

WEL Short-term value: 30 mg/m³, 10 ppm

Long-term value: 15 mg/m³, 5 ppm

Sk

Additional information: The lists that were valid during the compilation were used as basis.

8.2 Exposure controls

Personal protective equipment

General protective and hygienic measures

- Keep away from foodstuffs, beverages and food.
- Instantly remove any soiled and impregnated garments.
- Wash hands during breaks and at the end of the work.
- Store protective clothing separately.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Protection of hands:

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the Degradation.

Material of gloves

Butyl rubber, BR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed safety glasses.

Body protection: Protective work clothing

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:

Form	: Fluid
Colour	: Colourless
· Smell	: Amine-like
· Odour threshold	: Not determined.
· pH	: 6.7 0.5 molar aqueous solution
· Change in condition	
Melting point/Melting range	: -61 °C
Boiling point/Boiling range	: 152.5-153.5 °C
· Flash point	: 58 °C
· Inflammability (solid, gaseous)	: Not applicable.
· Ignition temperature	: 445 °C
· Decomposition temperature	: Not determined.
· Self-inflammability	: Not determined.
· Danger of explosion	: Not determined.
· Critical values for explosion:	
Lower	: 2.2 Vol %
Upper	: 16 Vol %
· Steam pressure at 20 °C	: 3.5 hPa
· Density	: at 20 °C 0.95 g/cm ³
· Relative density	: Not determined.
· Vapour density	: Not determined.
· Evaporation rate	: Not determined.
Solubility in / Miscibility with Water	: Fully miscible
Partition coefficient (n-octanol/water)	: -1.0 log POW
Viscosity:	
dynamic at 20 °C	: 0.802 mPas
kinematic	: Not determined.

9.2 Other information

No further relevant information available.

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:

LD/LC50 values that are relevant for classification:

Oral	: LD50	: 2800 mg/kg (rat)
Dermal	: LD50	: 4720 mg/kg (rabbit)
Inhalative	: LC50/4h	: >5.9 mg/l (rat)

Primary irritant effect:

- on the skin : No irritant effect.
- on the eye : Irritant effect.
- Sensitisation : No sensitizing effect known.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Repr. 1B

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 28 d - No observed adverse effect level - 238 mg/kg - Lowest observed adverse effect level - 475 mg/kg

Subacute toxicity

RTECS: LQ2100000

Vomiting

Diarrhoea

Abdominal pain

Warning: intolerance for alcohol can occur up to 4 days after dimethylformamide exposure. N,N-dimethylformamide is considered to be a potent liver toxin.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Headache, Dizziness, Drowsiness

Damage to:

Kidney, Liver

This substance should be handled with particular care.

12: Ecological information

12.1 Toxicity

Toxicity to fish

flow-through test LC50 - *Lepomis macrochirus* (Bluegill sunfish) - 7,100 mg/l - 96 h (US-EPA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 13,100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae

static test EC50 - *Desmodesmus subspicatus* (green algae) - > 1,000 mg/l - 72 h (DIN 38412)

Toxicity to bacteria

static test EC50 - *Vibrio fischeri* - 12,300 - 17,500 mg/l - 5 min

Remarks: (External MSDS)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 21 d

Result: 100 % - Readily biodegradable.

(OECD Test Guideline 301E)

Biochemical Oxygen Demand (BOD)

900 mg/g

Remarks: (Lit.)

Theoretical oxygen demand

1,863 mg/g

Remarks: (Lit.)

12.3 Bioaccumulative potential

Bioaccumulation *Cyprinus carpio* (Carp) - 56 d

(N,N-Dimethylformamide)

Bioconcentration factor (BCF): 0.3 - 1.2

(OECD Test Guideline 305C)

Remarks: Does not significantly accumulate in organisms.

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

Stability in water - ca.50 d

Test substance: Water

Remarks: reaction with hydroxyl radicals(calculated)(Lit.)

13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	2265	2265	2265
14.2	UN Proper Shipping name	N,N- DIMETHYLFORMAMIDE	N,N- DIMETHYLFORMAMIDE	N,N- Dimethylformamide
14.3	Transport Hazard Class	3	3	3
14.4	Packaging	III	III	III

	group			
14.5	Environmental Hazards	No	No	No
14.6	Special precautions for user	None		
14.7	Incompatible materials	Strong oxidizing agents		

15: Regulatory information

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

National regulatory information

HSNO Approval Code: HSR001133

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits

Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

Notification status

AICS : On the inventory, or in compliance with the inventory

DSL : All components of this product are on the Canadian DSL

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

NZIoC : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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