
SECTION 1. Identification of the substance/mixture and of the company/undertaking

Product identifier

Catalogue No.	103034
Product name	N,N-Dimethylformamide EMPARTA®
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	68-12-2

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

Identified uses	Reagent for analysis, Chemical production For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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Details of the supplier of the safety data sheet

Sahastraa Exports Pvt Ltd
Navkar Plaza 6th Floor, Bajaj Road Vile Parle West
Mumbai – 400056 India
Call +91 22 67879700 (100 Lines)
Email : info@sahastraa.com, Website :<http://sahastraa.com>

SECTION 2. Hazards identification

Classification of the substance or mixture Classification (REGULATION (EC) No 1272/2008)

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

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

Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

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

Precautionary statements

Prevention

P201 Obtain special instructions before use.
P210 Keep away from heat.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
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.

Restricted to professional users.

Reduced labelling (≤ 125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H360D May damage the unborn child.

Precautionary statements

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

CAS-No. 68-12-2

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Substance

Formula	HCON(CH ₃) ₂	C ₃ H ₇ NO (Hill)
EC-No.	200-679-5	
Molar mass	73.09 g/mol	

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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N,N-dimethylformamide (<= 100 %)

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

68-12-2 *)

Flammable liquid, Category 3, H226
Acute toxicity, Category 4, H332
Acute toxicity, Category 4, H312
Eye irritation, Category 2, H319
Reproductive toxicity, Category 1B, H360D

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Mixture

Not applicable

SECTION 4. First aid measures

Description of first aid measures

General advice

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

Gastrointestinal disturbance, Vomiting, Nausea, Headache, Dizziness, Drowsiness
irritant effects

Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

Foam, Carbon dioxide (CO₂), Dry powder, Water

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of:

nitrogen oxides

Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorised persons.

Recommended storage temperature see product label.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

Control parameters

Contains no substances with occupational exposure limit values.

Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material: butyl-rubber
Glove thickness: 0.70 mm
Break through time: > 480 min

splash contact:

Glove material: Viton (R)
Glove thickness: 0.70 mm
Break through time: > 240 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 890 Vitoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

Flame retardant antistatic protective clothing.

Respiratory protection

required when vapours/aerosols are generated.

Recommended Filter type: Filter A-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

Risk of explosion.

SECTION 9. Physical and chemical properties

Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	amine-like
Odour Threshold	0.329 ppm
pH	7 at 200 g/l 20 °C
Melting point	-61 °C (External MSDS)

Boiling point/boiling range	153 °C at 1,013 hPa Method: DIN 53171
Flash point	57.5 °C at 1,013 hPa Method: DIN 51755 Part 2
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	2.2 %(V)
Upper explosion limit	16 %(V)
Vapour pressure	3.77 hPa at 20 °C
Relative vapour density	2.51
Density	0.94 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	1,000 g/l at 20 °C
Partition coefficient: n-octanol/water	log Pow: -0.85 (25 °C) OECD Test Guideline 107 Bioaccumulation is not expected.
Auto-ignition temperature	435 °C at 1,013 hPa Method: DIN 51794
Decomposition temperature	> 350 °C
Viscosity, dynamic	0.86 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Other data	
Ignition temperature	410 °C Method: DIN 51794

SECTION 10. Stability and reactivity

Reactivity

Vapour/air-mixtures are explosive at intense warming.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Violent reactions possible with:

Alkali metals, halogens, halides, Reducing agents, triethylaluminium, nitrates, metallic oxides, nonmetallic oxides, Halogenated hydrocarbon, Isocyanates, sodium, Sodium borohydride, hydrides, Oxidizing agents, Oxides of phosphorus

A risk of explosion and/or of toxic gas formation exists with the following substances:

azides, Bromine, Chlorine, chromium(VI) oxide, potassium permanganate, triethylaluminium, chlorates

Halogenated hydrocarbon, with, Iron

Conditions to avoid

Heating.

Incompatible materials

various plastics, Copper, Copper alloys, Tin

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Acute oral toxicity

LD50 Rat: 3,010 mg/kg

OECD Test Guideline 401

Symptoms: Gastrointestinal disturbance, Nausea, Vomiting

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

LD50 Rabbit: 1,500 mg/kg

(IUCLID)

Skin irritation

Rabbit

Result: No irritation

(IUCLID)

Eye irritation

Rabbit

Result: Eye irritation

(IUCLID)

Causes serious eye irritation.

Sensitisation

Sensitisation test: Guinea pig

Result: negative

(Lit.)

Sensitisation test: Mouse

Result: negative

Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Mouse

male

Intraperitoneal injection

Bone marrow

Result: negative

(ECHA)

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

(ECHA)

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (Lit.)

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

CMR effects

Teratogenicity:

May damage the unborn child.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Repeated dose toxicity

Rat

male and female

Oral
28 d
daily
NOAEL: 238 mg/kg
LOAEL: 475 mg/kg
OECD Test Guideline 407
Subacute toxicity
Aspiration hazard
This information is not available.

Further information

After absorption:
Headache, Dizziness, Drowsiness
Damage to:
Kidney, Liver
Other dangerous properties can not be excluded.
This substance should be handled with particular care.

SECTION 12. Ecological information

Toxicity

Toxicity to fish

flow-through test LC50 *Lepomis macrochirus* (Bluegill sunfish): 7,100 mg/l; 96 h
Analytical monitoring: yes
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
(External MSDS)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

semi-static test NOEC *Daphnia magna* (Water flea): 1,500 mg/l; 21 d
(External MSDS)

Persistence and degradability

Biodegradability

100 %; 21 d; aerobic
OECD Test Guideline 301E
Readily biodegradable

Biochemical Oxygen Demand (BOD)

900 mg/g (5 d)

(Lit.)

Theoretical oxygen demand (ThOD)
1,863 mg/g

(Lit.)

Bioaccumulative potential *Partition coefficient: n-octanol/water log*
Pow: -0.85 (25 °C)
OECD Test Guideline 107

Bioaccumulation is not expected.

Bioaccumulation

Bioconcentration factor (BCF): 0.3 - 1.2

Cyprinus carpio (Carp); 56 d

OECD Test Guideline 305C

Does not significantly accumulate in organisms.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Other adverse effects

Stability in water

ca.50 d

reaction with hydroxyl radicals (calculated) (Lit.)

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

Waste treatment methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 2265
14.2 Proper shipping name	N,N-DIMETHYLFORMAMIDE
14.3 Class	3
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	D/E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 2265
14.2 Proper shipping name	N,N-DIMETHYLFORMAMIDE
14.3 Class	3
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

Sea transport (IMDG)

14.1 UN number	UN 2265
14.2 Proper shipping name	N,N-DIMETHYLFORMAMIDE
14.3 Class	3
14.4 Packing group	III

14.5 Environmentally hazardous --
14.6 Special precautions for user yes
EmS F-E S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

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

National legislation

Storage class 3

Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

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

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

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

Hazard statements

H226 Flammable liquid and vapour.
H312 + H332 Harmful in contact with skin or if inhaled.
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child.

Precautionary statements

Prevention

P201 Obtain special instructions before use.

P210 Keep away from heat.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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.

Further information

Restricted to professional users.

END OF MSDS