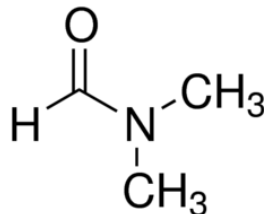


### MATERIAL SAFETY DATA SHEET (MSDS)

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Product form : Substance  
:  
EC Index-No. : 616-001-00-X  
EC-No. : 200-679-5  
CAS-No. : 68-12-2  
Product code : 03399  
Formula : C<sub>3</sub>H<sub>7</sub>NO  
Chemical structure :



Synonyms : DMF,Dimethylformamide

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only

###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

SPAN LAB  
UNIT NO. 14,SKY INDUSTRIAL ESTATE,WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Reproductive toxicity, H360D  
Category 1B  
Flammable liquids, H226  
Category 3  
Acute toxicity (dermal), H312  
Category 4

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

Acute toxicity (inhal.), Category 4 H332  
Serious eye damage/eye irritation, Category 2 H319

Full text of H statements : see section 16

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Repr.Cat.2; R61

Xn; R20

Xn; R21

Xi; R36

R10

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

GHS02

GHS07

Signal word (CLP) : Danger

Hazard statements (CLP) : 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 statements (CLP) : P201 - Obtain special instructions before use.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
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

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : N,N-DIMETHYL FORMAMIDE GC GRADE  
CAS-No. : 68-12-2  
EC-No. : 200-679-5

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

EC Index-No. : 616-001-00-X

Full text of R- and H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Assure fresh air breathing. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Immediately call a POISON CENTER/doctor. Wash with plenty of water/.... Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: May damage the unborn child.
Symptoms/effects after inhalation	: Harmful if inhaled.
Symptoms/effects after skin contact	: Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye irritation.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: Flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Ventilate area.

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.  
Precautions for safe handling : Take precautionary measures against static discharge. Use only non-sparking tools. Obtain special instructions before use. Avoid contact with skin and eyes. Do not breathe vapours. Keep away from sources of ignition - No smoking.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.  
Storage conditions : Keep container tightly closed. Keep in fireproof place.  
Incompatible materials : Heat sources.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : Protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Molecular mass : 73.09 g/mol  
Colour : Clear Colorless.  
Odour : fishy pungent & amine like.  
Odour threshold : No data available

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

pH	: 6.7
Relative evaporation rate (butylacetate=1)	: 0.17
Melting point	: -61 °C
Freezing point	: No data available
Boiling point	: 153 °C
Flash point	: 58 °C
Auto-ignition temperature	: 445 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Flammable Flammable liquid and vapour.
Vapour pressure	: 2.7 at 20°C
Relative vapour density at 20 °C	: 2.52
Relative density	: No data available
Density	: 0.949 g/cm <sup>3</sup>
Solubility	: Water: Complete
Log Pow	: 1.01
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.022 - 0.152 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

Skin corrosion/irritation : Not classified  
pH: 6.7

Serious eye damage/irritation : Causes serious eye irritation.  
pH: 6.7

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : May damage the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Harmful in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

No additional information available

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

##### N,N-DIMETHYL FORMAMIDE GC GRADE (68-12-2)

Log Pow	1.01
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

##### N,N-DIMETHYL FORMAMIDE GC GRADE (68-12-2)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR) : 2265  
UN-No. (IMDG) : 2265  
UN-No. (IATA) : 2265  
UN-No. (ADN) : 2265  
UN-No. (RID) : 2265

### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : N,N-DIMETHYLFORMAMIDE  
Proper Shipping Name (IMDG) : N,N-DIMETHYLFORMAMIDE  
Proper Shipping Name (IATA) : n,n-Dimethylformamide  
Proper Shipping Name (ADN) : N,N-DIMETHYLFORMAMIDE  
Proper Shipping Name (RID) : N,N-DIMETHYLFORMAMIDE  
Transport document description (ADR) : UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III, (D/E)  
Transport document description (IMDG) : UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III (58°C c.c.)  
Transport document description (IATA) : UN 2265 n,n-Dimethylformamide, 3, III  
Transport document description (ADN) : UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III  
Transport document description (RID) : UN 2265 N,N-DIMETHYLFORMAMIDE, 3, III

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR) : 3  
Danger labels (ADR) : 3



#### IMDG

Transport hazard class(es) (IMDG) : 3  
Danger labels (IMDG) : 3



#### IATA

Transport hazard class(es) (IATA) : 3

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

Hazard labels (IATA) : 3



### ADN

Transport hazard class(es) (ADN) : 3

Danger labels (ADN) : 3



### RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3



### 14.4. Packing group

Packing group (ADR) : III

Packing group (IMDG) : III

Packing group (IATA) : III

Packing group (ADN) : III

Packing group (RID) : III

### 14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : F1

Limited quantities (ADR) : 5I

Excepted quantities (ADR) : E1

Packing instructions (ADR) : P001, IBC03, LP01, R001

Mixed packing provisions (ADR) : MP19

Portable tank and bulk container instructions (ADR) : T2

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : LGBF

Vehicle for tank carriage : FL

Transport category (ADR) : 3

Special provisions for carriage - Packages (ADR) : V12



# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

Special provisions for carriage - Operation (ADR) : S2

Hazard identification number (Kemler No.) : 30

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2Y

### - Transport by sea

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T2

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-D

Stowage category (IMDG) : A

Flash point (IMDG) : 58°C c.c.

Properties and observations (IMDG) : Colourless liquid. Flashpoint: 58°C c.c. Explosive limits: 2.2% to 16% Miscible with water. May react violently with oxidizing materials.

MFAG-No : 129

### - Air transport

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y344

PCA limited quantity max net quantity (IATA) : 10L

PCA packing instructions (IATA) : 355

PCA max net quantity (IATA) : 60L

CAO packing instructions (IATA) : 366

CAO max net quantity (IATA) : 220L

ERG code (IATA) : 3L

### - Inland waterway transport

Classification code (ADN) : F1

Limited quantities (ADN) : 5 L

Excepted quantities (ADN) : E1

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 0

### - Rail transport

Classification code (RID) : F1

Excepted quantities (RID) : E1

Packing instructions (RID) : P001, IBC03, LP01, R001

Mixed packing provisions (RID) : MP19

Portable tank and bulk container instructions (RID) : T2

Portable tank and bulk container special provisions (RID) : TP2

Tank codes for RID tanks (RID) : LGBF

Transport category (RID) : 3

Special provisions for carriage – Packages (RID) : W12

Colis express (express parcels) (RID) : CE4

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

Hazard identification number (RID) : 30

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

N,N-dimethylformamide is on the REACH Candidate List

N,N-DIMETHYL FORMAMIDE GC GRADE is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

Reference to AwSV : Water hazard class (WGK) 2, significant hazard to water (Classification according to AwSV; ID No. 83)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : N,N-DIMETHYL FORMAMIDE GC GRADE is listed

##### Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

### 15.2. Chemical safety assessment

No additional information available

# N,N-DIMETHYL FORMAMIDE GC GRADE

## Safety Data Sheet

### SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
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.
R10	Flammable
R20	Harmful by inhalation
R21	Harmful in contact with skin
R36	Irritating to eyes
R61	May cause harm to the unborn child
á	Irritant
Xn	Harmful

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*