Material Safety Data Sheet

NN DIMETHYL FORMAMIDE 99% GC (RXSOL-60-6605-030)

1. Product and Company Identifaction

Product Name	NN DIMETHYL FORMAMIDE 99% GC
Part Number	RXSOL-60-6605-030

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

Phone	+91 22 20871200 - 1400
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2. Composition / informationon ingredients

Chemical Name	CAS	EC NO.	Weight
N,N-Dimethylformamide (DMF) GC-HS, 99.9%	68-12-2	200-679-5	100

3. Hazards Identification

Signal Word	NA
Risk advice to man and the environment	Toxic if swallowed. Very toxic in contact with skin. Irritating to eyes, respiratory system and skin
Precautionary statements - response	NA.
Response	NA.
Disposal	NA
Storage	NA
Prevention	NA
Supplemental Hazard Statements	NA
Other hazards	NA.

4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.
Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician
swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Skin Contact	Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physiciane
Ingestion:	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician
Notes to Physician	Treat symptomatically

If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delaye	No known significant effects or critical hazards.
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

Extinguishing media	NA
Flammability	NA
Flash Point	NA
Suitable extinguishing media	NA
Unsuitable extinguishing media	NA
Special hazards arising from the substance or mixture	NA

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, 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.
Environmental precautions	Do not let product enter drains. Risk of explosion
Methods and materials for containment and cleaning up	Prevent further leakage or spillage if safe to do so. Do not let product enter drains
Reference to other sections	No additional information available

7. Handling and Storage

Advice on safe handling	Work under hood. Do not inhale substance/mixture.
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. For precautions
Precautions fo safe handling	Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.
Protective measures	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container
Conditions for safe storage, including any incompatibilities	Store between the following temperatures: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination
Storage conditions	Tightly closed. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons. Light sensitive. Moisture sensitive.
Storage conditions	Tightly closed. Dry
Storage class	Storage class (TRGS 510): 13: Non Combustible Solids
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Handling	Keep away from heat. Keep away from sources of ignition. Keep away from combustible material.. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as reducing agents, combustible materials, organic materials, metals
Advice on general occupational hygiene	Advice on safe handling Observe label precautions. Change contaminated clothing. Wash hands after working with substance.

8. Exposure controls and personal protection

Respiratory Protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand Protection	The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves
Eye Protection	Safety glasses
Skin and body protection	Choose body protection according to the amount and concentration of the dangerous substance at the work
Hygiene measures	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product
Thermal hazards	No data available



Gloves



Suit

9. Physical and chemical properties

Physical state	Liquid
Colour	NA
Odour	NA
Molecular Weight	73.10
Odor Threshold	NA
pH	Not Applicable
Melting Point	-61°C
Boiling Point	153°C
Flash Point	58°C - closed cup
Evaporation Rate	NA
Explosive limits	No Data Available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Relative density	NA
Vapour pressure	NA
Density	No data available
Vapour Density	No Data Available
Specific Gravity	no data available
Partition coefficient	No data available
Explosive properties	None
Solubility	NA

Ignition temperature	No information available.
Particle characteristics	No data available
Viscosity	NA

10. Stability and reactivity

Reactivity	Vapor/air-mixtures are explosive at intense warming.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)
Possibility of hazardous reactions	Alkali metals Halogens Halides Reducing agents Triethylaluminium Nitrates
Conditions to avoid	Heating.
Incompatible materials	various plastics, Copper, Copper alloys, Tin, Strong oxidizing agents
Hazardous Polymerization	NA
Hazardous decomposition products	ucts In the event of fire: see section 5

11. Toxicological information

Acute toxicity	LD50 Oral - Rat - male and female - 3.010 mg/kg (OECD Test Guideline 401) Acute toxicity estimate Inhalation - 4 h - 11,1 mg/l - vapor (Expert judgment) Remarks: (Regulation (EC) No 1272/2008, Annex VI) LD50 Dermal - Rabbit - 1.500 mg/kg Remarks: (Regulation (EC) No 1272/2008, Annex VI) (IUCLID)
Skin corrosion/irritation	Skin - Rabbit Result: No skin irritation - 20 h Remarks: (ECHA)
Serious eye damage/eye irritation	Eyes - Rabbit Result: Irritating to eyes. (OECD Test Guideline 405) Remarks: (Regulation (EC) No 1272/2008, Annex VI)
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse Result: negative (OECD Test Guideline 406
Serious eye damage/eye irritation	No data available
Rout Of Entry	NA
Toxicity to Animal	NA.
Toxic Effects on Human	NA
Germ cell mutagenicity	Sister chromatid exchange assay Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	No data available
Special Remarks on other Toxi Effects on Humans:	NA
Additional Information	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: OD2800000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. RTECS: DK2625000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Damage to the eyes. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Stomach - Irregularities - Based on Human Evidenc

12. Ecological information

Toxicity	Conclusion/Summary There are no data available on the mixture itself.
Persistence and degradability	Conclusion/Summary There are no data available on the mixture itself.
Bioaccumulative potential	No data available
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 ErC50 - Desmodesmus subspicatus (green algae) - > 1.000 mg/l - 72 h (DIN 38412)
Eco Toxicity	Not Available
COD and BOD 5	Not Available
Products Biodegradation:	The methods for determining the biological degradability are not applicable to inorganic substances.
Mobility in soil	No Information available
Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Other adverse effects	No data available
Bioaccumulative potential	Cyprinus carpio (Carp) - 56 d at 25 °C - 0,002 mg/l(N,N-dimethylformamide) Bioconcentration factor (BCF): 0,3 - 1,2 (OECD Test Guideline 305C)
Mobility in soil	No data available

13. Disposal considerations

Disposal methods	NA
Contaminated packaging	NA
Waste treatment Method	See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

UN number	ADR/RID: 2265 IMDG: 2265 IATA: 2265
UN proper shipping name	ADR/RID: N,N-DIMETHYLFORMAMIDE IMDG: N,N-DIMETHYLFORMAMIDE IATA: N,N-Dimethylformamide
Transport hazard class(es)	ADR/RID: 3 IMDG: 3 IATA: 3
Packaging group	ADR/RID: III IMDG: III IATA: III
Environmental hazards	ADR/RID: No IMDG: No IATA: No
Special precautions for user	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage
Further information	Not classified as dangerous in the meaning of transport regulations.
Transport in bulk according to IMOinstruments	No data available

15. Regulatory information

U.S. Federal regulations	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture	This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
Safety, health and environmental regulations specific for the product in question	European Inventory of Existing Commercial Chemical Substances (EINECS) -Listed.EC Inventory Listed. United States Toxic Substances Control Act (TSCA) Inventory- Listed. China Catalog of Hazardous chemicals 2015 Not- Listed. New Zealand Inventory of Chemicals (NZIoC)Listed. PICCS -Listed. Vietnam National Chemical Inventory -Listed. IECSC Listed. Korea Existing Chemicals List (KECL) -Listed.
National legislation	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.FLAMMABLE LIQUIDS
DSCL (EEC)	R8- Contact with combustible material may cause fire. R20/22- Harmful by inhalation and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin. R42/43- May cause sensitization by inhalation and skin contact. S22- Do not breathe dust. S24- Avoid contact with skin. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37- Wear suitable gloves.
Other regulations	Take note of Dir 94/33/EC on the protection of young people at work.
Chemical Safety Assessment	For this product a chemical safety assessment was not carried out.

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall 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 Rx Marine International has been advised of the possibility of such damages.