CHEMSYNTH CORPORATION
(Exporter of chemical Raw materials)
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SAFETY DATA SHEET

1. Identification

Product identifier	Niacinamide
Other means of identification	
Catalog number	1462006
Chemical name	3-Pyridinecarboxamide
Synonym(s)	Nicotinamide; Vitamin B3
Recommended use	Specified quality tests and assay use only.
Recommended restrictions	Not for use as a drug. Not for administration to humans or animals.

Manufacturer/Importer/Supplier/Distributor information

Company name	Chemsynth corporation
Address	**B 802 Gundecha Heights, LBS Marg, Kanjurmarg, Mumbai 400 078,India Tele: +91 22 2578 9174 fax: +91 22 2569 0837, Email info@chemsynth.co.in**

2. Hazard(s) identification

Note	This product is supplied in a small quantity which does not constitute a combustible dust hazard. The physical properties of this material indicate that in large quantities accumulated dust may be hazardous.
Physical hazards	Not classified.
Health hazards	eye irritation Category 2A
Signal word	Warning
Hazard statement	Causes serious eye irritation.
Precautionary statement	
Prevention	Wash thoroughly after handling. Wear eye/face protection.
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Storage	Not available.
Disposal	Not available.
Hazard(s) not otherwise classified (HNOC)	Not classified.

3. Composition/information on ingredients

Substance

Hazardous components

Chemical name	Common name and synonyms	CAS number	%
Niacinamide	Nicotinamide; Vitamin B3	98-92-0	100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes.
Indication of immediate	Treatment for overdose should be symptomatic and supportive and may include the following:
medical attention and special	Administer activated charcoal as a slurry. For hypotension, infuse 10 to 20 mg/kg isotonic fluid. If
treatment needed	persistant, administer dopamine or norepinephrine. [Poisindex]
General information	Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials. Water. Foam. Dry chemical or CO2.
Unsuitable extinguishing Media	None known.
Specific hazards arising from the chemical	Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. No unusual fire or explosion hazards noted.
Special protective equipment and precautions for firefighters	Wear suitable protective equipment.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self- and protective contained breathing equipment clothing.

Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid inhalation of dust from the spilled material. Wear appropriate personal protective equipment.

7. Handling and storage

Precautions for safe handling As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions.

Conditions for safe storage, including any incompatibilities
Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

8. Exposure controls/personal protection

Biological limit values No biological exposure limits noted for the ingredient(s).
Exposure guidelines No exposure standards allocated.
Appropriate engineering controls

Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure. Local exhaust ventilation is generally preferred to general exhaust because it can control the contaminant at its source, preventing dispersion into the work area. An industrial hygiene survey involving air monitoring may be used to determine the effectiveness of engineering controls. Effectiveness of engineering controls intended for use with highly potent materials should be assessed by use of nontoxic surrogate materials.

Individual protection measures, such as personal protective equipment
Eye/face protection Safety glasses with sideshields are recommended. Face shields or goggles may be required if splash potential exists or if corrosive materials are present. Approved eye protection (e.g., bearing the ANSI Z87 or CSA stamp) is preferred. Maintain eyewash facilities in the work area.

Hand protection Chemically compatible gloves. For handling solutions, ensure that the glove material is protective against the solvent being used. Use handling practices that minimize direct hand contact. Employees who are sensitive to natural rubber (latex) should use nitrile or other synthetic nonlatex gloves. Use of powdered latex gloves should be avoided due to the risk of latex allergy.

Other For handling of laboratory scale quantities, a cloth lab coat is recommended. Where significant quantities are handled, work clothing may be necessary to prevent take-home contamination.

Thermal hazards Not available.

General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance White crystalline powder.
Physical state Solid.
Form Powder.

Odor Odorless or nearly so.
Odor threshold Not available.
pH Solutions are neutral to litmus.
Melting point/freezing point 262.4 - 267.8 °F (128 - 131 °C)
Initial boiling point and boiling range
314.6 °F (157 °C) 0.000067 kPa

Flash point 359.60 °F (182.00 °C) (TOC)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Explosive limit - lower (%) Not available.
Explosive limit - upper (%) Not available.
Vapor pressure 0.0000264 kPa at 25 °C
31.4 hPa at 25 ° C

Vapor density Not available.
Relative density Not available.
Solubility in water Freely soluble.
Partition coefficient
(n-octanol/water)
-0.37
Auto-ignition temperature Not available.
Viscosity Not available.
Other information
Chemical family Pyridine derivative.
Molecular formula C6-H6-N2-O
Molecular weight 122.13 g/mol
Solubility (other) Freely soluble in ethanol; soluble in butanol, in glycerol, in amyl alcohol, in ethylene glycol, and in acetone; slightly soluble in chloroform, in ether, and in benzene.
Specific gravity 1.4 at 25 °C

10. Stability and reactivity

Reactivity No reactivity hazards known.
Chemical stability Stable at normal conditions.

Possibility of hazardous
reactions
Not available.

Conditions to avoid None known.

Incompatible materials Strong oxidizers. Strong acids. Strong bases. Mineral acids. Alkalies.

11. Toxicological information

Information on likely routes of exposure
Ingestion Based on available data, the classification criteria are not met.
Inhalation Due to lack of data the classification is not possible.
Skin contact Based on available data, the classification criteria are not met.
Eye contact Causes serious eye irritation.
Symptoms related to the
physical, chemical, and
toxicological characteristics
Nausea. Vomiting. Diarrhea. Dizziness. Fainting. Headache. Dry eyes. Dry skin. Increased urination. Thirst. Jaundice. Joint pain. Abdominal pain. Back pain. Muscle pain. Swelling of feet or lower legs. Fever. Changes in heart rate. Itching. Tiredness. Weakness.

Delayed and immediate effects of exposure
Liver toxicity.

Cross sensitivity Persons sensitive to niacin may be sensitive to this material also.
Medical conditions aggravated by exposure
Bleeding disorders. Diabetes mellitus. Liver disease. Jaundice. Gout. Peptic ulcer. Gallbladder disease.

Acute toxicity
Product Species Test Results
Niacinamide (CAS 98-92-0)
LD50 Rabbit
Dermal Acute > 2000 mg/kg
LD50 Mouse *Oral* 2500 mg/kg
Rat 3500 mg/kg 5.5 g/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation
Causes serious eye irritation.

Local effects
Irritancy test
Result: Irritant.
Species: Rabbit
Organ: Eye
Irritancy test
Result: Non-irritant.
Species: Rabbit
Organ: Skin

Respiratory sensitization Due to lack of data the classification is not possible.
Skin sensitization Based on available data, the classification criteria are not met.

Sensitization
Guinea pig maximization test
Result: Non-sensitizing.
Species: Guinea pig
Organ: Skin
Guinea pig maximization test
Result: Sensitizing.
Species: Guinea pig
Organ: Skin
Sensitization test
Result: Non-sensitizing.
Species: Guinea pig
Organ: Skin

Mutagenicity
Ames test in Salmonella
Result: Not mutagenic except for one strain that showed a
weakly positive response.
In vivo micronucleus test
Result: Not clastogenic.
Mutagenicity test in Saccharomyces
Result: Not mutagenic.
Sister chromatid exchange assay in Chinese hamster lung fibroblasts
Result: Caused sister chromatid exchanges but chromosome
aberrations were not induced.
Sister chromatid exchange assay in Chinese hamster ovary
Cells Result: Caused sister chromatid exchanges and induced
chromosome aberrations.
Sister chromatid exchange assay in human lymphoblastoid
Cells Result: Caused sister chromatid exchanges.
Unscheduled DNA synthesis assay in rat hepatocytes
Result: Caused unscheduled DNA synthesis.

Carcinogenicity This material is not considered to be a carcinogen by IARC, NTP, or OSHA.
1 % Drinking water carcinogenicity study
Result: No increase in tumor formation.
Species: Mouse

Reproductive toxicity Based on available data, the classification criteria are not met.
Reproductivity

0 - 1000 mg Reproductivity and development tests, with oral administration of nicotinic acid, a material with similar physiological function and comparable kinetics as niacinamide
Result: No increase in the incidence of birth defects.
Species: Rat
61 mg/kg Reproductivity and development study, with subcutaneous administration of niacinamide
Result: No significant effects on the fetuses.
Species: Mouse

Specific target organ toxicity -single exposure
Based on available data, the classification criteria are not met.
Specific target organ toxicity -repeated exposure
Based on available data, the classification criteria are not met.
Aspiration hazard Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity Low acute toxicity to aquatic organisms.
Persistence and degradability Readily biodegradable.
Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.
Mobility in soil Not available.
Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
Local disposal regulations Not available.
Hazardous waste code Not available.
Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as a hazardous material by DOT.

IATA
Not regulated as a dangerous good.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
No information available.

15. Regulatory information

US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.
All components are on the U.S. EPA TSCA Inventory List.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No
SARA 302 Extremely

hazardous substance
No
SARA 311/312 Hazardous chemical
No
Other federal regulations
Safe Drinking Water Act (SDWA)
Not regulated.
Food and Drug Administration (FDA)
Total food additive
Direct food additive
GRAS food additive

16. Other information, including date of preparation or last revision

Issue date 04-21-2008
Revision date 05-05-2014
Version # 02
Further information Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.
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Material name: Niacinamide
5984 Version #: 02 Revision date: 05-05-2014 Issue date: 04-21-2008
USP SDS US

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