西安绿天生物技术有限公司
Plamed Green Science Group

MATERIAL SAFETY DATA SHEET

Section 1 Description

Product Name	3-Pyridinecarboxamide
Manufacturer/Supplier	Plamed Green Science Group
Address	69# Jinye Rd., High-Tech Zone, Xi'an, P. R. China.
Phone Number	+ 86-29-88215350

Section 2 Ingredients/Identity Information

Components	Common names and synonyms	CAS-No.	Concentration
3-Pyridinecarboxamide	3-Pyridinecarboxamide	98-92-0	100%

Section 3 Possible Hazards

- Classification of the substance or mixture:

Eye irritation, Category 2

- GHS label elements, including precautionary statements

Pictogram(s)

Signal word: Warning

Hazard statement(s): H319 causes serious eye irritation.

Precautionary statement(s)- Prevention: P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response: P305+P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.

Storage: none.

Disposal: none.

- Other hazards which do not result in classification: none.

Section 4 Emergency and First Aid Procedures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Fresh air, rest.

In case of skin contact

Rinse skin with plenty of water or shower.

In case of eye contact

Rinse with plenty of water (remove contact lenses if easily possible).

If swallowed

Rinse mouth. Give one or two glasses of water to drink.

Most important symptoms/effects, acute and delayed: no data available

Indication of immediate medical attention and special treatment needed, if necessary

Absorption, Distribution and Excretion: 14(C) Niacinamide was incorporated into an oil-in-water (o/w) skin cream and into a 30% (w/w) soap base and applied to the skin of female Colworth Wistar rats. The final concentration of niacinamide in the soap solution was approximately 0.3% (w/v) and was 1% (w/w) in the skin cream. Application of the skin cream and soap paste was made to rat skin at approximately 20 mg/sq cm. The cream was carefully massaged over 10 sq cm of skin for up to 5 min before covering with polythene-lined occlusive protective patches. The rats were placed in metabolism cages for 48 hr during which time all excreta was collected. At 48 hr, the animals were killed and the patch, carcass, and treated area of skin were assayed for 14(C). Up to 32% 14(C) was recovered in excreta and in the carcasses from rats treated with skin cream containing 14(C) Niacinamide and up to 30% from those treated with soap paste.

Section 5 Fire and Hazard Data

- Extinguishing media

Suitable extinguishing media

This chemical is a noncombustible solid. Use dry chemical, carbon dioxide, water spray, or alcohol foam extinguishers. Poisonous gases are produced in fire. If material of contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increase in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position. If employees are expected to fight fires, they must be trained and equipped in OSHA 1910.156.

- Specific hazards arising from the chemical: no data available
- Special protective actions for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

Section 6 Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

- Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

- Methods and materials for containment and cleaning up

Evacuate persons not wearing protective equipment from area of spill or leak until clean up is complete. Remove all ignition sources. Use HEPA vacuum or wet method to reduce dust during cleanup. Do not dry sweep. Collect powdered material in the most convenient and safe manner and deposit in sealed containers. Ventilate after clean up is complete. It may be necessary to contain and dispose of this chemical as a hazardous waste. If material of contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of

Environmental Protection or regional office of the federal EPA for specific recommendations. If employees are expected to clean up spills, they must be trained and equipped. OSHA 1910.120 may be applicable.

Section 7 Precautions for Safe Handling and Use

- Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

- Conditions for safe storage, including any incompatibilities

Separated from oxidants

Section 8 Control Methods

- Control parameters

Occupational Exposure limit values: no data available

Biological limit values: no data available

- Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

- Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The

selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection: Wear dust mask when handling large quantities.

Thermal hazards: no data available

Section 9 Physical and Chemical Properties (Typical)

Physical state	PHYSICAL DESCRIPTION: White powder.
Color	White, powder, needles from benzene
Odor	ODORLESS
Melting point/ freezing point	-69 ℃(lit.)
Boiling point or initial boiling point and boiling range	145 ℃(lit.)
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit / flammability limit	no data available
Flash point	150 ℃
Auto-ignition temperature	480 ℃
Decomposition temperature	no data available
pH	10% "wt in vol" soln in water is neutral to litmus
Kinematic viscosity	no data available
Solubility	2.8 [ug/mL]
Partition coefficient n-octanol/water (log value)	no data available
Vapor pressure	4.2X10-4 mm Hg at 25 ℃ (est)
Density and/or relative density	1.4
Relative vapor density	(air = 1): 4.2

Particle characteristics no data available

Section 10 Stability and Reactivity

- Reactivity: no data available
- Chemical stability: Stable to heat, acids and alkali.
- Possibility of hazardous reactions

Dust explosion possible if in powder or granular form, mixed with air. An amine and amide. Acts as a weak base in solution. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).

- Conditions to avoid：no data available
- Incompatible materials：no data available
- Hazardous decomposition products：When heated to decomposition it emits toxic fumes of nitrogen oxides

Section 11 Toxicological Information

- Acute toxicity

Oral: LD50 Rat oral 3500 mg/kg

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation: no data available

Serious eye damage/irritation: no data available

Respiratory or skin sensitization: no data available

Germ cell mutagenicity: no data available

Carcinogenicity: no data available

Reproductive toxicity: no data available

STOT-single exposure: no data available

STOT-repeated exposure: no data available

Aspiration hazard: no data available

Section 12 Ecological Information

- Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: EC50 Daphnia magna (Water flea) >1000 mg/L/24 hr; Effect: immobilization /Conditions of bioassay not specified in source examined

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

- Persistence and degradability

AEROBIC: Nicotinamide was determined to be readily biodegradable in an aerobic screening test recommended by the Department of Environment, Standing Committee of Analysts, UK(1).

- Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for nicotinamide(SRC), using a log Kow of -0.37(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

- Mobility in soil

The Koc of nicotinamide is estimated as 15(SRC), using a log Kow of -0.37(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that nicotinamide is expected to have very high mobility in soil.

- Other adverse effects: no data available

Section 13 Disposal Considerations

- Disposal methods

Product: The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging: Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

Section 14 Transport Information

- UN Number:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

- UN Proper Shipping Name:

ADR/RID: unknown

IMDG: unknown

IATA: unknown

- Transport hazard class(es):

ADR/RID: No dangerous goods

IMDG: No dangerous goods

IATA: No dangerous goods

- Packing group, if applicable:

ADR/RID: No dangerous goods

IMDG: No dangerous goods

IATA: No dangerous goods

- Environment hazards:

ADR/RID: no

IMDG: no

IATA: no

- Special precautions for user: no data available
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: no data available

Section 15 Regulatory Information

Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
3-Pyridinecarboxamide	3-Pyridinecarboxamide	98-92-0	none
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.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed

Section 16 Other Information

- Information on revision

Creation Date Aug 12, 2017

Revision Date Aug 12, 2017

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

- References

IPCS - The International Chemical Safety Cards (ICSC), website:

http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:

http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website:

http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

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