Vitamin B3 (Niacinamide), USP

Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / March 26, 2012 / Rules and Regulation

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1 PRODUCT & COMPANY IDENTIFICATION

Product Name: Vitamin B3 (Niacinamide), USP
Synonyms: 3-Pyridinecarboxamide, Niacinamide, Nicotinamide; 3-Carbamoylpyridine
INCI Name: Niacinamide
CAS Number: 98-92-0
Formula: No data available
Product Form: Solid
Product Use: Cosmetic use

Distributor: MakingCosmetics Inc.
Address: 10800 231st Way NE
Redmond, WA 98053 (USA)
Phone / Fax: 425-292-9502 / 425-292-9601
Web: **www.makingcosmetics.com**

Emergency Telephone Number: 1-800-424-9300 (Chemtrec)

2 HAZARDS IDENTIFICATION

Classification: Category 2 (H319): Serious eye damage/eye irritant.
(Classification according to Regulation (EC) No. 1272/2008 [CLP])

Signal Word: **WARNING**

Hazard Pictograms:

Hazard Statements: H319: Causes serious eye irritation.

Precautionary Statements:
P264: Wash hands, eyes and face thoroughly after handling.
P280: Wear protective gloves/clothing and eye/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.
P337 + P313: If eye irritation persists: Get medical advice/attention.
P405: Store locked up.
P501: Dispose of contents/container to local/regional/national/international regulations.

Potential Health Hazards:
Eyes: Causes serious eye irritation
Inhalation: May be an irritant.
Skin: May be an irritant.
Ingestion: May be an irritant.

Other Hazards: Substance is not classified as PBT nor as vPvB.

NFPA Ratings (704):

Health	N/A	N/A
Flammability	N/A	N/A
Reactivity	N/A	N/A
Specific Hazard	N/A	

3 COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Weight %	Molecular Weight
Niacinamide	98-92-0	100%	Not Available

4 FIRST AID MEASURES

Eyes: If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention if necessary.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell. Monitor for respiratory distress. Apply artificial respiration if not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Toxic vapors may be released on thermal

	decomposition including nitrogen oxides, carbon monoxide and cyanide.
Skin:	Immediately take off all contaminated clothing. Wash thoroughly with water for at least 15 minutes. Wash contaminated clothes before reuse. Seek immediate medical attention.
Ingestion:	If swallowed call a poison center if you feel unwell. Rinse mouth. Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. Seek medical attention.
General Information:	Call a POISON CENTER or doctor/physician if you feel unwell. Treat Symptomatically.

5 FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:	May be combustible at high temperature. Use appropriate media (dry chemical powder, carbon dioxide, and alcohol resistant foam.) Water may be in effective. Water sprays can be effective in cooling down the fire-exposed containers and knocking down the vapors. Water jets may be used to flush spills away and dilute the same to non-flammable mixtures fog or alcohol-resistant foam by directing streams to the periphery of the fires to prevent spread. Do not permit water to get inside containers. No unsuitable extinguish media listed.
Special protective equipment & precautions for firefighters:	Evacuate the area and fight fires from a safe distance. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions or as per locally valid procedures. Fire-fighters must wear Self Contained Breathing Apparatus (SCBA). Chemical is water-soluble. Report any run-off of fire water contaminated with this chemical as per local and federal procedures applicable. 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.
Flash Points:	182°C (359°F)
Specific hazards arising from the chemical:	Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide. Vapors are heavier than air. May travel considerable distance from source and flashback. This product is an organic solid. As such, in its finely divided form, this product has the potential to present a dust explosion hazard if these conditions are met: The substance is given in very finely distributed form (powder, dust). The substance is whirled up in sufficient quantity in the air. An ignition source is present (flame, spark, electrostatic discharge, etc.). Potential for Dust Explosion: Niacinamide presents a significant dust explosion hazard unless properly handled. Strong dust explosion, indicator 2, Maximum Explosion Pressure = 8.0 bar; Maximum Rate of Pressure Rise = 885 bar/s; Kst = 240 bar. m/s; Minimum Ignition Energy = 3 - 5 mJ; Limiting Oxygen Concentration = 13 - 14%; Minimum Explosible Concentration = 50 - 60 g/m3.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment & emergency procedures:	Non-emergency Personnel: Wear protective clothing, full boots, impervious gloves, safety glasses and Self-Contained Breathing Apparatus (SCBA), as may be deemed appropriate. Avoid breathing vapors and contact with skin and eyes. Shut off leak source if possible. Shut off all possible sources of ignition. Wipe up. Decontaminate all equipment. Use non-sparking tools. Emergency Responders: Wear protective clothing, full boots, impervious gloves, safety glasses and Self-Contained Breathing Apparatus (SCBA), as may be deemed appropriate. Alert Emergency Responders and tell them location and nature of hazard. Shut off all possible sources of ignition and increase ventilation. Stop leaks if possible. Clean up all spills immediately following relevant Standard Operating Procedures. Avoid breathing vapors and contact with skin and eyes.
Environmental precautions:	Clean up all spills immediately following relevant Standard Operating Procedures. Inform authorities in event of contamination of any public sewers, drains or water bodies. Wipe up. Prevent, by any means available, spillage from entering drains or water and watercourses.
Methods and material for containment and cleaning up:	Collect recoverable product into labeled containers for recycling, recovery, or disposal. Contain spill with sand, earth, or vermiculite. Spread area with lime or absorbent material, and leave for at least 1 hour before washing. Clean up all tools and equipment. Decontaminate all equipment.

7 HANDLING & STORAGE

Precautions for safe handling:	Precautions for Unique Hazards: This material may present a dust explosion hazard in solid form and is sensitive to ignition by electrostatic discharge. Maintain areas below flammable vapor / explosive dust concentrations. To minimize risk; Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink, or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors, or dust clouds. Use in a well-ventilated place. Use protective clothing commensurate with exposure levels. Observe good industrial hygiene practices. See section 8 for recommendations on the use of personal protective equipment.
Conditions for safe storage, incl. any incompatibilities:	Preserve in tight containers. Keep only in original container. Keep securely closed when not in use.Store away from incompatible materials (see section 10 for incompatibilities).

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	Exposure Limits	Basis	Country
Niacinamide	1mg/m3	Not available	Latvia
	1 mg/m3	STEL	OEL- RUSSIA
	Particulates: 10mg/mg3 (inhalable)	Not available	New Zealand
	Particulates: 3mg/m3 (respirable)	Not available	New Zealand
	Particulates: 15mg/m3 (total dust)	Not available	(OSHA) U.S.
	5mg/m3 (respirable fraction)	Not available	(OSHA) U.S.
	Particulates :10mg/m3	Not available	(NIOSH), U.S., Belgium, Canada (QC), Singapore, South Korea

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection:

Eyes:	Wear safety goggles/chemical safety glasses and face shield.
Inhalation:	Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirators when necessary.
Body:	Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. For full/splash contact; use nitrile rubber gloves with 0.11mm thickness, with a break through time: >480 min. The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374 (for ex. KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact).
Other:	Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, Crystalline	**Vapor Pressure:**	4.2 x 10-4 mm Hg at 25 °C (est)
Odor:	Odorless	**Relative Vapor Density:**	The product is a non-volatile solid
Odor Threshold:	No data available	**Evaporation Rate:**	No data available
Color:	White	**Flammability:**	Non flammable
Molecular Weight:	No data available	**Upper/lower Explosive Limit:**	No data available
pH:	5.35 - 5.5 (5% aq solution water at 25°C)	**Flash Point:**	182°C (359°F)
Boiling Point/Range:	No data available	**Specific Gravity:**	No data available
Melting/Freezing Point:	128°C - 131°C	**Water Solubility:**	1000g/l (20°C)

Relative Density:	1.400 at 25ºC	**Auto-Ignition Temperature:**	480˚C
Partition Coefficient: n-octanol/water:	-0.37 (estimated)	**Decomposition Temperature:**	>140˚C
Viscosity:	No data available	**Explosive Limits/Properties:**	No data available

10 STABILITY AND REACTIVITY

Reactivity:	It is a crystalline white solid. It is odorless and soluble in water.
Chemical Stability:	Stable under normal temperatures and conditions.
Hazardous Polymerization:	Not expected.
Conditions to Avoid:	Dust explosion. Avoid contact with incompatible chemicals.
Incompatible Materials:	Strong Acids, Strong Alkaline solutions, and Oxidizing agents.
Hazardous Decomposition Products:	When heated it may produce hazardous combustion gases like Nitrogen oxides, carbon monoxide, carbon dioxide.
Possible Hazardous Reactions:	No data available.

11 TOXICOLOGICAL INFORMATION

Acute Toxicity:	RTECS#: QS367500 (Rat) Oral LD5: 3530-3540 mg/kg. (Rabbit) Dermal LD50: >2000 mg/kg.
Skin:	No data available.
Eyes:	It causes serious eye irritation.
Respiratory:	No data available.
Ingestion:	No data available.
Serious Eye Damage/Irritation:	(Rabbit) OECD Guideline 405: moderately irritating.
Carcinogenicity:	Not a carcinogen. Oral feed (Mouse) life span study: (110 weeks), 1%, average daily intake, m: 100.5 mg, f: 66.3 mg. Consumption of nicotinamide caused no apparent carcinogenic action. (Degussa Antwerpen N.V. Antwerpen 4).
Repeated Exposure (STOT):	(Rat) Oral feed: Exposure period: 28 days. Doses: 215 and 1000 mg/kg. GLP: Yes. Effects: decreased body weight and food consumption in males; increased transaminases; spleen weight reduced in males liver, weight increased in females; minimal to mild hypertrophy in liver; reduced extra medullary hematopoiesis, all findings were reversible. (OECD Guideline-407 “Repeated dose oral toxicity- Rodent” ear: 1981).
Teratogenicity:	No data available.
Germ Cell Mutagenicity:	Non mutagenic.
Endocrine Disrupting Properties:	This product does not contain any known or suspected endocrine disruptors.
Reproductive Toxicity:	No reproductive and developmental toxicity.
Respiratory/Skin Sensitization:	(Guinea pig) Beuhler test, OECD Guideline- 406 “Skin sensitization”, 1981: Not sensitizing.
Skin Corrosion/Irritation:	(Rabbit) Patch test OECD 404, 1981: Not irritating.
Chronic Effects:	Effects the kidneys, eyes, and liver.

12 ECOLOGICAL INFORMATION

Ecotoxicity:	This chemical is not a marine pollutant but is nevertheless harmful to the environment.
Aquatic Vertebrate:	(P. reticulata) LC50: 4200 mg/l, 96 hours.
Aquatic Invertebrate:	(Daphnia magna) EC50: >1000 mg/L, 24 hours.
Terrestrial:	Algae toxicity: Desmodesmussubspicatus: NOEC: 560 mg/l, 72 hours.
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).
ANAEROBIC:	Nicotinamide was not degraded using an anaerobic spore-forming rod (Clostridia sp.) bacteria isolated from Potamac River Mud (1).
Bioaccumulative Potential:	BCF = 3. Log Kow = -0.37. Based on the Log Kow and Bioconcentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms.
Mobility in Soil:	Log Koc = 15 (If released to soil, nicotinamide is expected to have very high mobility based upon estimated KOC value.) Henry's Law Constant = 2.9X10-12 atm-cu m/mole. (Volatilization from moist soil surfaces is not expected to be an important fate process based upon an

	estimated Henry's Law constant). Log Kow = - 0.37 (Very Low bioaccumulation is expected).
PBT and vPvB Assessment:	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.
Other Adverse Effects:	Nicotinamide's production and use as a medication and dietary supplement may result in its release to the environment through various waste streams. If released to air, an estimated vapor pressure of 4.2X10-4 mm Hg at 25°C indicates nicotinamide will exist in both the vapor and particulate phases in the atmosphere. Vapor-phase nicotinamide will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 7 days. If released to soil, nicotinamide is expected to have very high mobility based upon an estimated Koc of 15. Volatilization from moist soil surfaces is not expected to be an important fate process based upon an estimated Henry's Law constant of 2.9X10-12 atm-cu m/mole. If released into water, nicotinamide is not expected to adsorb to suspended solids and sediment based upon the estimated Koc.

13 DISPOSAL CONSIDERATIONS

Waste Residues:	Burn in a chemical incinerator equipped with an afterburner and scrubber. Avoid release to the environment. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment. Dispose of in accordance with local regulations.
Product Containers:	Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product. Dispose of contents/container in accordance with all applicable local regulations.

The information in section 13 is for the product as shipped. Use and/or alterations to the product may change the characteristics of the material and alter the waste classification and proper disposal methods

14 TRANSPORT INFORMATION

DOT (Dept. of Transportation, USA):	Not regulated as dangerous goods.
TDG (Transportation of Dangerous Goods, Canada):	Not data available.
IMDG (International Maritime Dangerous Goods):	Not regulated as dangerous goods.
IATA (International Air Transport Association):	Not regulated as dangerous goods.
ICAO (International Civil Aviation Organization):	Not regulated as dangerous goods.

15 REGULATORY INFORMATION

TSCA Inventory Status:	Listed (Active)
CERCLA:	Niacinamide not listed.
SARA 302/304:	Niacinamide not listed.
SARA 311/312:	H319: Causes serious eye irritation.
Clean Air Act (CAA):	Niacinamide not listed.
Clean Air Act (CWA):	Niacinamide not listed.
China (IECSC):	Listed
Australia (AICS):	Listed
Taiwan (TCSI)	Listed
Japan (ISHL):	Listed
Philippines (PICCS):	Listed
New Zealand (NZIoC):	Listed
EU Information:	Water hazard class (WGK) 1, Low hazard to waters
New Chemical Substances (ENCS):	Listed.
Existing Chemicals List (KECI):	Listed.
EC Inventory Status:	Listed.
Substance of Very High Concern (SVHC):	Niacinamide not listed. (According to the REACH Regulations (EC) No. 1907/2006)
Chemical Safety Assessment:	A Chemical Safety Assessment has been carried out for this substance.
California Prop. 65:	Niacinamide not listed.

16 OTHER INFORMATION

Biographical References & Data Sources:	CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009 DIR 67/548/EWG, last modification by DIR 2009/2/EC REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009 OECD Guideline- 407 "Repeated dose oral toxicity- Rodent" Year: 1981 Degussa Antwerpen N.V. Antwerpen 4 Department of Environment, Standing Committee of Analysts, UK (1)
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Compliance:	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
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