Niacin
Safety Data Sheet
according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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

1.1. Product identifier

PRODUCT NAME : Niacin
CAS RN : 59-67-6
EC# : 200-441-0
SYNONYMS : 3-Pyridinecarboxylic acid; Niacin; Nicotinic acid; 3-Carboxylpyridine; 3-Carboxypyridine
SYSTEMATIC NAME : 3-Pyridinecarboxylic acid
MOLECULAR FORMULA : C6H5NO2
STRUCTURAL FORMULA

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

1.2.1. Relevant identified uses
Niacin used as a nutrient and/or dietary supplement in animal drugs, feeds, and related products. Niacin is also used to prevent niacin deficiency and to treat pellagra.

Uses advised against : None

1.3. Details of the supplier of the safety data sheet
Jubilant Life Sciences India
FACTORY & REGISTERED OFFICE: Jubilant Life Sciences Ltd., Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India
HEAD OFFICE: Jubilant Life Sciences Ltd., Plot 1-A, Sector 16-A Institutional Area, Noida, Uttar Pradesh, 201301 - India

T: FACTORY & REGISTERED OFFICE: +91-5924-252353 to 252360 Contact Department-Safety: Ext. 7424
HEAD OFFICE: +91-120-4361000 E-mail: support@jubl.com

1.4. Emergency telephone number
Emergency number : +91-9997022412; +91-9359674864

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture
GHS-US classification
Serious eye damage/eye irritation: Category 2A

2.2. Label Elements

Hazard Pictogram: GHS 07
Signal Word: Warning!

HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS
• H319: Causes serious eye irritation.

PRECAUTIONARY STATEMENTS
• P264: Wash hands thoroughly after handling.
• 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.
• P337+313: IF eye irritation persists: Get medical advice/attention.
• P405: Store locked up.
• P501: Dispose of contents/container to local/official/national/international regulations.
SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS #</th>
<th>Purity</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niacin</td>
<td>59-67-6</td>
<td>&gt;99%</td>
<td>Serious eye damage/eye irritation: Category 2A</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures

4.1. Description of first aid measures

Key symptoms

Acute effects

- It causes serious eye irritation.

FIRST AID:

- **Eyes:** If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do continue rinsing. Seek medical attention.
- **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.
- **Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

*Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. Do not permit water to get inside containers. Water may also be used. Water can be effective in cooling down the fire-exposed containers and knocking down the vapours. 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.

Special Protective Equipment and Precautions for Fire Fighter

- 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) and full protective clothing. The chemical is harmful in contact with skin.
- Report any run-off of fire waters contaminated with this chemical as per local and federal procedures applicable.

Unusual fire and explosion hazard

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

SECTION 6: ACCIDENTAL RELEASE MEASURES

**Minor Spills**

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

**Major Spill**

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
• 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.
• Inform authorities in event of contamination of any public sewers, drains or water bodies.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling
• Do not breathe vapor or mist.
• Wear protective gloves/clothing and eye/face protection.
• Wash thoroughly after handling.
• Ground and secure containers when dispensing or pouring product.
• Avoid contact with incompatible materials.
• When handling, DO NOT eat, drink or smoke.
• Launder contaminated clothing before re-use.
• If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
• Use in a well ventilated place/Use protective clothing commensurate with exposure levels.

Storage
• Store in a cool, well ventilated place.
• Store away from incompatible materials.
• Keep container tightly closed.
• Keep securely closed when not in use.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters
• Exposure Limits Values

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA-Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niacin</td>
<td>None Listed</td>
<td>None Listed</td>
<td>None Listed</td>
</tr>
</tbody>
</table>

OEL-RUSSIA: STEL 1 mg/m³

Exposure Controls
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.

Occupational exposure to nicotinic acid may occur through inhalation and dermal contact with this compound at workplaces where nicotinic acid is produced or used. Monitoring data indicate that the general population may be exposed to nicotinic acid via ingestion of food and dermal contact with this compound and other consumer products containing nicotinic acid.

Personal Protection:
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.

Eyes: Safety goggles/ Chemical Safety glasses and Face shield.
Respirator: 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 respirator when necessary.

Hand protection: In full contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

In Splash contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough 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 example KCL 740 Dermatri® (full contact), 740 Dermatri® (splash contact).

General Industrial hygiene:
• Immediately change contaminated clothing.
• Apply skin protective barrier cream.
**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

- Information on basic physical and chemical properties.

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Parameter</th>
<th>Typical value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Appearance</td>
<td>White crystalline solid</td>
</tr>
<tr>
<td>2</td>
<td>Odor</td>
<td>Slightly amine to odorless</td>
</tr>
<tr>
<td>3</td>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>4</td>
<td>Melting point</td>
<td>237°C</td>
</tr>
<tr>
<td>5</td>
<td>Boiling point</td>
<td>Sublimes</td>
</tr>
<tr>
<td>6</td>
<td>Flash point</td>
<td>193°C</td>
</tr>
<tr>
<td>7</td>
<td>Evaporation rate (n-BuAc=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>8</td>
<td>Explosive limits</td>
<td>Lower exp limit: 30mg/cu m</td>
</tr>
<tr>
<td>9</td>
<td>Vapor pressure</td>
<td>5.7 X 10^-6 mmHg@25°C</td>
</tr>
<tr>
<td>10</td>
<td>Vapor density (air=1)</td>
<td>4.24</td>
</tr>
<tr>
<td>11</td>
<td>Specific gravity (water=1)</td>
<td>1.473</td>
</tr>
<tr>
<td>12</td>
<td>Solubility (water)</td>
<td>15 mg/ml; Slightly Soluble.</td>
</tr>
<tr>
<td>13</td>
<td>Solubility in other solvents</td>
<td>Insoluble in Ether</td>
</tr>
<tr>
<td>14</td>
<td>pH (in aq saturated solution)</td>
<td>2.7 (Acidic)</td>
</tr>
<tr>
<td>15</td>
<td>Log Kow (octanol/water)</td>
<td>0.36</td>
</tr>
<tr>
<td>16</td>
<td>Auto-ignition temperature</td>
<td>580°C</td>
</tr>
<tr>
<td>17</td>
<td>Decomposition temperature</td>
<td>&gt;140°C</td>
</tr>
<tr>
<td>18</td>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>19</td>
<td>Molecular Weight</td>
<td>123.11</td>
</tr>
<tr>
<td>20</td>
<td>pKa (@20°C)</td>
<td>4.75</td>
</tr>
<tr>
<td>21</td>
<td>Log Koc</td>
<td>1.16 (Estimated)</td>
</tr>
<tr>
<td>22</td>
<td>Flammable material</td>
<td>No</td>
</tr>
<tr>
<td>23</td>
<td>Oxidizer</td>
<td>No</td>
</tr>
<tr>
<td>24</td>
<td>Pyrophoric material</td>
<td>No</td>
</tr>
<tr>
<td>25</td>
<td>Explosive material</td>
<td>No</td>
</tr>
</tbody>
</table>

**SECTION 10: STABILITY AND REACTIVITY**

- **Stability:** Stable under normal temperatures and conditions. Stable in air, foods, acids and bases.
- **Conditions to avoid:** Dust explosion. Avoid contact with incompatible chemicals.
- **Incompatible chemicals:** Strong Acids, Strong Alkaline solutions and Oxidizing agents.
- **Hazardous decomposition:** When heated to decomposition it emits toxic fumes of nitroxides
- **Hazardous Polymerization:** Not expected

**SECTION 11: TOXICOLOGICAL INFORMATION**

11.1. **Information on toxicological effects**

- **Acute toxicity**
  - In the workplace, single or repeated contact can lead to a flush effect on the skin, including the face. The reddening is the result of increased peripheral blood circulation from dilation of capillaries at the skin surface. The flush effect is accompanied by sensations of itching, tingling, and warmth of the skin. It causes serious eye irritation also. It vanishes after the exposure has ended and is thus reversible.

- **Chronic effects:**
  - Affects the kidneys, eyes & liver.
**Niacin**  
Safety Data Sheet  
according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

**RTECS#:** QT0525000  
**LD50/LC50:**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Oral LD50 (Mouse)</td>
<td>3720 mg/kg</td>
</tr>
<tr>
<td>Acute Oral LD50 (Rabbit)</td>
<td>4550 mg/kg</td>
</tr>
<tr>
<td>Acute Oral LD50 (Rat)</td>
<td>7000 mg/kg</td>
</tr>
<tr>
<td>Acute Dermal LD50 (Rat)</td>
<td>&gt; 2000 mg/kg bw</td>
</tr>
</tbody>
</table>

- **Skin irritation/ corrosion**  
  - Causes skin irritation.

- **Serious Eye damage/ irritation**  
  - Causes serious eye irritation.

- **Respiratory or skin sensitization**  
  - No data is available.

- **Germ cell Mutagenicity**  
  - No data is available.

- **Carcinogenicity**  
  - Not listed by NTP, IARC and OSHA.
  - Not present on the EU CMR list.
  - According to information presently available, Niacin is not found to be carcinogenic.

- **Reproductive toxicity**  
  - No data is available.

- **STOT-single exposure**  
  - No data is available.

- **STOT-repeated exposure**  
  - No data available.

- **Aspiration hazard**  
  - No data available.

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity**

**Ecotoxicity**:

- **Acute toxicity to fish**  
  Fish (Salmotrattra) LC50: 520 mg/L/96h

- **Acute toxicity to invertebrates**  
  Daphnia: Daphnia: EC50: 77 mg/L; 48h

**Persistence and degradability**

- **Aerobic**: In aqueous, aerobic soil suspensions containing mineral salts and a fertile garden soil inoculum, nicotinic acid was completely degraded after 2 to 4 days of incubation. In aqueous, aerobic soil suspensions containing a silt loam soil inoculum, nicotinic acid was degraded by 16.1% after 1 day, 99.9% after 2 days, and 100% after 4 days of incubation. Nicotinic acid was readily biodegraded in screening tests using an activated sludge inoculum.

- **Anaerobic**: In aqueous, anaerobic soil suspensions containing mineral salts and a fertile garden soil inoculum, nicotinic acid was completely degraded after 8 to 17 days of incubation. In anaerobic aquifers slurries, nicotinic acid was completely biodegraded after incubation for one year reaching 74% of the potential methane production from this process.

**Bioaccumulative potential (Predicted)**

- **BCF = 3.162**
- **Log Kow = 0.36**

Based on the Log Kow and Bio concentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms.

**Mobility in soil**

- **Log Koc = 1.16** Low absorption in soil.
- **Henry's Law Constant = 5.11 X 10-11 atm-m3/mole** Non-volatile from aqueous bodies.
- **Log Kow = 0.36** Very Low bioaccumulation is expected.
Other adverse effects

Environment Fate:

- **Terrestrial Fate:** Based on a classification scheme, an estimated value of Koc determined from a logKow of 0.36 and a regression-derived equation, indicates that nicotinic acid is expected to have very high mobility in soil.

  The pKa of nicotinic acid is 4.75, indicating that this compound will primarily exist in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts.

  Volatilization from moist soil is not expected, as ions do not volatilize. Nicotinic acid is not expected to volatilize from dry soil surfaces based upon an estimated vapor pressure of 5.7X10^-6 mm Hg, determined from a fragment constant method. In aqueous, aerobic soil suspensions, nicotinic acid was completely degraded after 2 to 4 days of incubation, suggesting that biodegradation may be an important environmental fate process in soil.

- **Aquatic Fate:** Based on a classification scheme, an estimated Koc value, determined from a log Kow of 0.36 and a regression-derived equation, indicates that nicotinic acid is not expected to adsorb to suspended solids and sediment. A pKa of 4.75 indicates nicotinic acid will exist almost entirely in the anion form at pH values of 5 to 9 and therefore volatilization from water surfaces is not expected to be an important fate process. It is even suggested that suggests the potential for bioconcentration in aquatic organisms is low. In aqueous, aerobic soil suspensions, nicotinic acid was completely degraded after 2 to 4 days of incubation, suggesting that biodegradation may be an important environmental fate process in water.

- **Atmospheric Fate:** According to a model of gas/particle partitioning of semi volatile organic compounds in the atmosphere, nicotinic acid, which has an estimated vapor pressure of 5.7X10^-6 mm Hg at 25 deg C, determined from a fragment constant method, will exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase nicotinic acid is degraded in the atmosphere by reaction with photochemical-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 24 days, calculated from its rate constant of 1.72X10^-13 cu cm/molecule-sec at 25 deg C. Nicotinic acid does not absorb at wavelengths >290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight.

SECTION 13: Disposal considerations

- **Waste treatment methods**
  - Burn in a chemical incinerator equipped with an afterburner and scrubber.
  - Exert extra care in igniting, as this material is combustible.
  - Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

- **This substance is considered to be Non Hazardous for transport by Air/Rail/Road and Sea and thus not regulated by IATA/ICAO/ARD/RID/IMO/IMDG.**

- **Environmental hazards**
  - It is expected that this chemical is not a marine pollutant and is not Harmful to the Aquatic environment.

SECTION 15: REGULATORY INFORMATION

- **European Union Information**
  - Classification as per CLP Regulation 1272/2008:
    o Eye Irrit Cat.2
    o Hazard Statements: : H319

- **US information**
  - TSCA
    CAS# 59-67-6 is listed on the TSCA inventory.
  - WGK (Water Danger/Protection)
    1
  - Canada
    CAS# 59-67-6
    - Canada
      CAS# 59-67-6 is listed on Canada’s DSL List.
CAS# 59-67-6 is not listed on Canada's Ingredient Disclosure List.

### SECTION 16: OTHER INFORMATION

#### a) Compilation information of safety data sheet

<table>
<thead>
<tr>
<th>Information</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of compilation</td>
<td>March 01, 2012</td>
</tr>
<tr>
<td>Chemical</td>
<td>Niacin</td>
</tr>
<tr>
<td>CAS #</td>
<td>59-67-6</td>
</tr>
<tr>
<td>File Name</td>
<td>0013Gj Ghs07 Div.4 sds Niacin</td>
</tr>
<tr>
<td>Revision Number</td>
<td>07</td>
</tr>
<tr>
<td>Date of Revision</td>
<td>January 08, 2016</td>
</tr>
<tr>
<td>Revision Due Date</td>
<td>December, 2017</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>September 10, 2015</td>
</tr>
</tbody>
</table>

#### b) A key or legend to aberrations and acronyms used in the safety data sheet

- PBT = Persistent Bioaccumulative and Toxic
- vPvB = Very Persistent and Very Bioaccumulative
- SCBA = Self Contained Breathing Apparatus
- RTECS = Registry of Toxic Effects of Chemical Substances
- NTP = National Toxicology Program
- IARC = International Agency for Research on Cancer
- EPA = Environmental Protection Agency
- TSCA = Toxic Substances Control Act
- CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
- SARA = Superfund Amendments and Reauthorization Act
- NFPA = National Fire Protection Association
- WHIMS = Workplace Hazardous Materials Information System
- DSL/NDSL = Domestic/Non-Domestic Substances List
- CSR = Chemical Safety Report
- BCF = Bio Concentration Factor
- DNEL = Derived No Effect Level
- PNEC = Predicted No Effect Concentration
- TLV = Threshold Limit Value
- AGGHI = American Conference of Governmental Industrial Hygienists
- REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
- CLP = Classification, Labelling and Packaging
- LD / LC = Lethal Doses / Lethal Concentration
- GHS = Globally Harmonised System
- ADR = Accord europeen relative au transport international de marchandises
- IMDG-Code = International Maritime Code for Dangerous Goods
- EmS = Emergency measures on Sea
- ICAO = International Civil Aviation Organization
- IATA/DGR = International Air Transport Association/Dangerous Goods Regulation

#### c) Key Literature reference and sources for data

Biographical reference and 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
- Degussa Antwerpen N.V Antwerpen4 ; European Chemicals Bureau; IUCLID Dataset.

SDS US (GHS HazCom 2012)

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.

(End of Safety Data Sheet)