Safety Data Sheet
According to REG (EC) no.453/2010

Product Identification: 3-Pyridylacetic acid 0210Gj Clp06 Div.3 sds 3-Pyridylacetic acid

Date of issue: September 23, 2015

Date of Compilation : January 06, 2012
Date of Revision      : September 23, 2015
Revision Number       : 06
Version Number        : 0210Gj Clp06 Div.3 sds 3-Pyridylacetic acid
Supersedes date       : March 26, 2014
Supersedes version    : 0210C05 Div.03 sds 3-Pyridylacetic acid
SECTION 1.: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

1.1 Product identification: 3-Pyridyl acetic acid; CAS RN: 501-81-5; EC#: 207-928-7

1.1.1. Trade name: 3-Pyridyl acetic acid

1.1.2. Systematic Name: 3- Pyridylacetic acid

1.1.3. Synonyms: Coletin; Lessterol; Lioxone; Minedil; Piridil; Piristerol; 3-Pyridineacetic acid 3-pyridylacetic acid; Pyridine-3-acetic acid

1.1.4. Other Languages:
   - De: 3-Pyridylessigsäure
   - Es: Ácido 3-piridilacético
   - Fr: Acide 3-pyridylacétique

1.1.5 Molecular Formula: C_7H_7NO_2

1.1.6. Structural Formula:

```
  N
 O
  OH
  \ N
```

1.1.7. Registration Status under REACH Regulation (EC) No. 1907/2006

   **CLP Notification Number:** 02-2119570285-36-0000

   **Pre-Registration Status under REACH Regulation (EC) No. 1907/2006**

<table>
<thead>
<tr>
<th>EC Name</th>
<th>Submission Number</th>
<th>Pre-registration Number</th>
<th>Name of the Organization (OR)</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Pyridylacetic acid</td>
<td>CD449523-53</td>
<td>05-2114628351-56-0000</td>
<td>Jubilant Life Sciences NV</td>
<td>31/05/2018</td>
</tr>
</tbody>
</table>

**Identified uses:** 3-pyridylacetic acid is used as an intermediate in pharmaceutical industry.

1.2 **Uses advised against:** None
1.3 Company / supplier: FACTORY & REGISTERED OFFICE:
Jubilant Life Sciences Ltd.
Bhartigram, Gajraula
District: Amroha
Uttar Pradesh-244223, India
PHONE NO: +91-5924-252353 to 252360
Contact Department-Safety: Ext. 7424
FAX NO : +91-5924-252352

HEAD OFFICE:
Jubilant Life Sciences Ltd.
Plot 1-A, Sector 16-A,
Institutional Area, Noida,
Uttar Pradesh- 201301 India.
PHONE NO: +91-120-4361000
FAX NO : +91-120- 4234881 / 84 / 85 / 87 / 95 / 96
Email: support@jubl.com
Website: www.jubl.com

1.3 Emergency telephone: +91-9997022412 & +91-9359674864

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance

2.1.1. Classification according to regulation(EC) 1272/2008

Skin corrosion / irritation: Category 2  H315
Serious eye damage/Eye irritation: Category 2  H319

2.1.2 Classification according to regulation (EC) no.67/548/EEC

Classification: Xi; R36/37/38
2.2 *Label elements according to regulation (EC) 1272/2008*

**Pictograms:**

- [Exclamation mark]

*GHS 07-Exclamation mark*

**Signal word:** Warning!

**Hazard and precautionary statements:**

**Hazard Statements**

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.

**PRECAUTIONARY STATEMENTS**

**Prevention**

- P264: Wash clothes thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response**

- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- 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.

**Disposal**

- P501: Dispose of contents/container to local/regional/national/international regulations.

2.3 *Other Hazards*

- Substance is not classified as PBT nor as vPvB. For further details see section 12.
SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>EINECS No.</th>
<th>Purity</th>
<th>Classification acc. to reg.(EC) no. 1272/2008</th>
<th>Hazard Classes and categories</th>
<th>Pictograms</th>
<th>Signal Words</th>
<th>Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Pyridylacetic acid</td>
<td>501-81-5</td>
<td>207-928-7</td>
<td>≥99%</td>
<td></td>
<td>Skin corrosion / irritation: Category 2</td>
<td>GHS 07</td>
<td></td>
<td>H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Serious eye damage/Eye irritation: Category 2</td>
<td></td>
<td></td>
<td>H319</td>
</tr>
</tbody>
</table>

Classification & Labeling acc.to dir.67/548/EEC

<table>
<thead>
<tr>
<th>Classification</th>
<th>Symbol</th>
<th>Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xi- Irritant</td>
<td><img src="image" alt="Symbol" /></td>
<td>R36/37/38,</td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures.

4.1.1 Route of exposure: inhalation, skin, eye and ingestion.

4.1.2 Advice

- Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed.

- Acute effects:

  3-Pyridylacetic acid causes skin, and serious eyes irritation. The toxicological properties of this material have not been fully investigated. Currently it is not categorized as toxic.
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- **Chronic effects:**
  To the best of our knowledge, the chronic health effects of this product have not been fully investigated.

4.3. Indication of any immediate medical attention and special treatment needed.
- **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.
- **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. Monitor for respiratory distress. Apply artificial respiration if not breathing. Do not use mouth-to-mouth methods 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 vapours may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- **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

5.1. Extinguishing media.
- **Appropriate extinguishing media:** Dry chemical powder, carbon dioxide, and alcohol resistant foam. 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.

5.2. Special hazards arising from the substance or mixture.
- 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.

5.3. Advice 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).
SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures.
6.1.1 For 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.

6.1.2 For emergency personnel
- 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.

6.2. 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.
- 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.

6.3. Methods and material for containment and cleaning up.
- Clean up all tools and equipment.
- Decontaminate all equipment.

6.4. Reference to other sections.
- For more information please refer to section 8 and 13.
SECTION 7: HANDLING AND STORAGE

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities
- Store in a cool, dry and ventilated place.
- Store away from incompatible materials.
- Keep securely closed when not in use.

7.3. Specific end use(s)
- 3-pyridylacetic acid is used as an intermediate in pharmaceutical industry.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters
8.1.1 Exposure Limits Values

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>OSHA-Final PELs</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Pyridyl acetic acid</td>
<td>None listed</td>
<td>None listed</td>
<td>None listed</td>
</tr>
</tbody>
</table>

8.1.2 Exposure Limits (International):
- Not available.

8.1.3 Derived No-Effect-Levels (DNEL) / Predicted No-effect-concentration (PNEC)
- DNEL and PNEC data not available.

8.2. Exposure controls
8.2.1 Appropriate Engineering 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.
8.2.2. 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.
- **Hands:** Wear appropriate protective gloves to prevent skin exposure.
- **Eyes:** Safety goggles/ Chemical Safety glasses and Face shield.
- **Clothing:** Boots and clothing to prevent contact.
- **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.

### SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. 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>Crystalline White powder</td>
</tr>
<tr>
<td>2.</td>
<td>Odor</td>
<td>Not available</td>
</tr>
<tr>
<td>3.</td>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>4.</td>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>5.</td>
<td>Melting point/Freezing point</td>
<td>161—163°C</td>
</tr>
<tr>
<td>6.</td>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>7.</td>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>8.</td>
<td>Evaporation rate (n-BuAc=1)</td>
<td>Not available</td>
</tr>
<tr>
<td>9.</td>
<td>Flammability</td>
<td>Not available</td>
</tr>
<tr>
<td>10.</td>
<td>Upper/lower flammability or Explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>11.</td>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>12.</td>
<td>Vapor density (air=1)</td>
<td>Not available</td>
</tr>
</tbody>
</table>
SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
- 3-pyridylacetic acid is crystalline white powder. Reactivity of compound is not available.

10.2. Chemical stability
- Stable under normal temperature and pressures.

10.3. Possibility of hazardous reactions
- Hazardous Polymerization: Not data available.

10.4. Conditions to avoid
- Keep away from heat, sparks, flame, high temperature and incompatible chemicals, dust generation, u.v. light, strong oxidants and strong reducing agents.

10.5. Incompatible materials
- Strong oxidizing and reducing agents.

10.6. Hazardous decomposition products
- Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide & nitrogen, Hydrogen chloride, hydrogen cyanide and irritating and toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
   a) Acute toxicity
   - 3-Pyridylacetic acid causes skin, and serious eyes irritation. The toxicological properties of this material have not been fully investigated. Currently it is not categorized as toxic.
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According to REG (EC) no.453/2010

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Date of issue: September 23, 2015

RTECS#: Not listed.

b) Skin corrosion/irritation
   - Causes skin irritation.

c) Serious eye damage/irritation
   - Causes eye irritation.

d) Respiratory or skin sensitization
   - No data is available.

e) Germ cell Mutagenicity
   - No data is available.

f) Carcinogenicity
   - Not listed by NTP, IARC and OSHA.
   - Not present on the EU CMR list.
   - According to information presently available 3-Pyridylacetic acid is not found to be carcinogenic.

g) Reproductive toxicity
   - No data is available.

h) STOT-single exposure
   - No data is available.

i) STOT- repeated exposure
   - No data available.

j) Aspiration Hazards
   - No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
12.1.1 Ecotoxicity:
   - The ecotoxicity data based on the experiments for this material is not currently available. Based on the environmental modals the following information can be used to estimate the ecotoxicity.

12.2. Persistence and degradability
   - No information is available.

12.3. Bio accumulative potential
   - BCF = 3.162 (Estimated)
   - Log Kow = 0.24 (Estimated).

   Based on the Log Kow and Bioconcentration factor value it is expected to have Non bioaccumulative in fish and aquatic organisms and Negligible potential to bioaccumulate.
12.4. Mobility in soil
- Log Koc = 1.418
- Henry’s Law constant = 5.8 x 10^{-11} \text{ atm/m}^3. Non-volatile from aqueous bodies.
- Log Kow = 0.24 Low potential to bioaccumulate.

12.5. Results of PBT and vPvB assessment
- The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII

12.6. Other adverse effects.
- Environment Fate:
  Based on environmental modeling, this material is not expected to be persistent in the environment and is not expected to bioaccumulate. It also has very negligible sorption in soil. It does not undergo ready biodegradability. Since this is an estimated result, necessary guidelines should be followed before disposing off the material in to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- 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.

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land transport</td>
<td>ADR/RID</td>
</tr>
<tr>
<td>Maritime Transport</td>
<td>IMDG</td>
</tr>
<tr>
<td>Air Transport</td>
<td>IATA</td>
</tr>
</tbody>
</table>

14.1. UN number
- Not applicable.

14.2. UN proper shipping name
- Not applicable.

14.3. Transport hazard class(es)
- Not applicable.
14.4. Packing group
   • Not applicable.

14.5. 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

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.
   • European/International Regulations.
   • European Labelling in Accordance with EC Directives.

Classification (as per Regulation (EC) No 1272/2008):
   • Hazards Class and Category: Skin Irrit. Cat.2, Eye Irrit. Cat2
   • Hazard Statements: H315;H319

Classification as per directive 67/548/EEC
   • Classification: Xi; R36/37/38
     Xi - Irritant

US information
   • TSCA
     CAS# 501-81-5 is listed on the TSCA 8(b) inventory.
   • Health & Safety Reporting List
     None of the chemicals are on the Health & Safety Reporting List.
   • Chemical Test Rules
     None of the chemicals in this product are under a Chemical Test Rule.
   • Section 12b
     None of the chemicals are listed under TSCA Section 12b.
   • TSCA Significant New Use Rule
     None of the chemicals in this material have a SNUR under TSCA.
   • OSHA:
     None of the chemicals in this product are considered highly hazardous by OSHA.
   • Canada:
     The substance is listed in NDSL list.

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet
Chemical: 3-Pyridylacetic acid
CAS #: 501-81-5
File Name: 0210Gj Clp06 Div.3 sds 3-Pyridylacetic acid
Revision Number: 06
Jubilant Life Sciences Limited
Safety Data Sheet
According to REG (EC) no.453/2010

Product Identification: 3-Pyridylacetic acid 0210Gj Clp06 Div.3 sds 3-Pyridylacetic acid

Date of issue: September 23, 2015

Date of Issue of SDS: September 23, 2015
Revision Due Date: August, 2017

(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.
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit.
- OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit.
- OELTWA= Occupational Exposure Limit Time Weighted Averages.
- IDLH= Immediately Dangerous to Life or Health.
- UEL= Upper Explosive Limit.
- LEL= Lower Explosive Limit.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Programmm.
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- SARA= Superfund Amendments and Reauthorization Act.
- 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.
- ACGIH = 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.
- 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

Internet

- RTECS
- ESIS

(d) List of Risk Phrases, Hazard statements, safety Phrases and/or precautionary statements.

<table>
<thead>
<tr>
<th>Risk Phrases</th>
<th>R36/37/38: Irritating to eyes, respiratory system and skin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazards Statements</td>
<td>H315: Causes skin irritation.</td>
</tr>
<tr>
<td></td>
<td>H319: Causes serious eye irritation.</td>
</tr>
<tr>
<td>Safety Phrases</td>
<td>S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.</td>
</tr>
<tr>
<td></td>
<td>S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).</td>
</tr>
</tbody>
</table>

Company’s Declaration:

Information contained in this SDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Jubilant Life Sciences Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)