Safety Data Sheet

According to REG (EC) no.453/2010

Product Identification: Pyridine-2-aldehyde 0432Gj Clp09 Div.3 sds Pyridine-2-aldehyde

Date of issue: August 25, 2015

Date of Compilation : December 29, 2011

Date of Revision : August 25, 2015

Revision Number : 09

Version Number : 0432Gj Clp09 Div.3 sds Pyridine-2-aldehyde

Supersedes date : March 21, 2014

Supersedes version : 0432C08 Div.03 sds Pyridine-2-aldehyde

SECTION 1.: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

1.1 **Product identification:** Pyridine- 2-aldehyde; CAS RN: 1121-60-4; EC# 214-333-6

1.1.1. **Trade name:** Pyridine -2-aldehyde

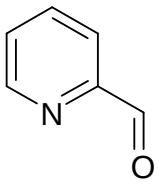
1.1.2. **Systematic Name:** Pyridine-2-carbaldehyde

1.1.3.**Synonyms:** Pyridine-2-carbaldehyde; 2-Formylpyridine;2-Picolinaldehyde;2-Picolinealdehyde; 2-Pyridaldehyde;2-Pyridinecarboxaldehyde;2-Pyridylaldehyde; 2-Pyridylcarboxaldehyde; Picolinic aldehyde;Pyridine-2-aldehyde;o-Nicotinaldehyde.

1.1.4. **Other Languages**: **De:** Pyridin-2-carbaldehyd.
Es: Piridina-2-carbaldehido.
Fr: Pyridine-2-carbaldehyde.

1.1.5 **Molecular Formula** C_6H_5NO

1.1.6. **Structural Formula:**



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

CLP Notification Number: 02-2119488523-31-0000

EC Name	Submission Number	Pre-registration Number	Name of the Organization (OR)	Validity
Pyridine-2-carbaldehyde	HW449392-09	05-2114557540-51-0000	Jubilant Life Sciences NV	31/05/2018

1.2 **Identified uses:** Pyridine-2-aldehyde is used as an intermediate in the manufacturing of pharmaceutical drugs like biscacodyl, carbinoxamine maleate and mefloquine.

Uses advised against: None

1.3 Company / supplier: ***FACTORY & REGISTERED OFFICE:***

Jubilant Life Sciences Ltd.
Bhartiagram, 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

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

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance

2.1.1. Classification according to regulation (EC) no. 1272/2008

Skin corrosion / irritant**:** Category 2	H315
Eye damage/eye irritant: Category 2	H319
Skin Sensitization: Category 1	H317
Acute Toxicity Oral: Category 4	H302
Acute Toxicity –Inhalation: Category 3	H331
Aquatic Environment: Category 2 (Chronic Hazard)	H411
Specific Target Organ Toxicity: Category 3 (Single Exposure)	H335

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

Classification: T; R23 - Xn; R22 - Xi; R36/37/38 - R43 - N; R51/53

2.2 Label elements according to regulation (EC) 1272/2008

Pictograms:

GHS06 –Toxic

GHS09-Aquatic Hazards

Signal word: Danger!

HAZARD AND PRECAUTIONARY STATEMENTS:
HAZARD STATEMENTS

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H317: May cause an allergic skin reaction.
- H302: Harmful if swallowed.

- H331: Toxic if inhaled.
- H411: Toxic to aquatic life with long lasting effects.
- H335: May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

Prevention

- P264: Wash hands thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P273: Avoid release to the environment.
- P210: Keep away from heat/sparks/open flames/hot surfaces.

Response

- P301+312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330: Rinse mouth.
- P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P330: Rinse mouth.
- P332+313: If skin irritation occurs: Get medical advice/attention.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P362: Take off contaminated clothing and wash before reuse.
- P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P311: Call a POISON CENTER or doctor/physician.
- 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.
- P333+313: If skin irritation or a rash occurs: Get medical advice/attention.
- P363: Wash contaminated clothing before reuse.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P391: Collect spillage.

Storage

- P405: Store locked up.
- P403+233: Store in a well ventilated place. Keep container tightly closed.
- P403+235: Store in a well ventilated place. Keep cool.

Disposal

- P501: Dispose of the container as per local norms and regulations.

SECTION 3: COMPOSITION / INFORMATION ON INGERDIENTS

Substance	CAS No.	EINECS No.	Purity	Classification acc. to reg.(EC) no. 1272/2008		
				Hazard Classes and categories	**Pictograms Signal Words**	**Hazard Statements**
Pyridine- 2-aldehyde	1121-60-4	214-333-6	>98%	Skin corrosion / irritant**:** Category 2 Eye damage/eye irritant: Category 2 Skin Sensitization: Category 1 Acute Toxicity Oral: Category 4 Acute Toxicity – Inhalation: Category 3 Aquatic Environment: (Chronic Hazard) Category 2 Specific Target Organ Toxicity: Category 3 (Single Exposure)	GHS 06 GHS 09  	H315 H319 H317 H302 H331 H411 H335

Classification & Labeling acc.to dir.67/548/EEC		
Classification	**Symbol**	**Risk Phrases**
T:Toxic Xn: Harmful Xi: Irritant N: Dangerous for Environment	 	R23; R22; R36/37/38 R43; R51/53

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:***

  Eyes: If the eyes have come in contact with Pyridine-2-aldehyde, then serious eye irritation, pain, swelling, corneal erosion, and blindness may result.

  Skin: Dermal exposure may result in dermatitis (red, inflamed skin), may cause an allergic skin reaction.

  Ingestion: Signs and symptoms of acute ingestion of Pyridine-2-aldehyde may be harmful.

  Inhalation: Acute inhalation exposure may result in, respiratory tract irritation and toxic effect.

- ***Chronic effects:***
- Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

4.3. Indication of any immediate medical attention and special treatment needed.

Eyes:

- If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.
- Wash exposed skin areas THOROUGHLY with soap and water.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- RUSH to a health care facility.

Skin:

- Remove victims from exposure. Emergency personnel should avoid self- exposure to Pyridine-2-aldehyde.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.

- Remove contaminated clothing as soon as possible.
- RUSH to a health care facility.

Inhalation:

- Move victims to fresh air. Emergency personnel should avoid self-exposure to Pyridine-2-aldehyde.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- RUSH to a health care facility.

Ingestion:

- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Rinse mouth with large amounts of water. Instruct victims not to swallow this water.
- DO NOT induce vomiting or attempt to neutralize!
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

SECTION 5 : FIRE-FIGHTING MEASURES

Flash Point: 78^{o}C **Flammability:** Combustible material

5.1. Extinguishing media.

- *Appropriate extinguishing media*: Dry chemical powder, chemical foam, and alcohol resistant foam. Do not use water jet or fog (spray) to extinguish. 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.

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.
- When heated to decomposition, it emits highly toxic fumes of phosgene and chlorides.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

- Water may cause frothing if it gets below surface of the liquid and turns to steam. Contact with metals may evolve flammable hydrogen gas.

5.3. Advice for firefighters.

- This material is extremely hazardous to health, but fire fighters may enter areas with extreme care. Full protective clothing including a self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed.
- 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)
- Report any run-off of firewater's contaminated with this chemical as per local and federal procedures applicable.

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.
- Collect spillage.
- 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.
- Use non sparkle tools.

7.2. Conditions for safe storage, including any incompatibilities

- Store in a cool, refrigerated area.
- Store away from incompatible materials.
- Store in a flame proof area.
- Keep securely closed when not in use.

7.3. Specific end use(s)

- Pyridine-2-aldehyde is used as an intermediate in the manufacturing of pharmaceutical drugs like biscacodyl, carbinoxamine maleate and mefloquine.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Pyridine 2-aldehyde	Not established	Not established	Not established

8.1.2Exposure 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.
  For emergency situations, wear a positive pressure, pressure-demand, full face piece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA,1998).

General Hygiene and general comments:

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.
- Apply skin protective barrier cream.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	Clear yellow to yellow-brown liquid.
2.	Odor	Not available
3.	Odor Threshold	Not available
4.	pH	6.0 - 7.0 (20 °C Concentration:111g/l)
5.	Melting point/Freezing point	-21°C
6.	Boiling Point	181 deg C @ 760 mm Hg
7.	Flash point	78°C (SGS Report GR: GL:7210015790 dated 14/4/2007)
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability (Liquid)	Combustible material
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	1.2hPa @20 deg C
12.	Vapor density (air=1)	Not available

13.	Relative density	1.126 g/cm^3
14.	Solubility	Miscible in water, soluble in most common organic solvents
15.	Partition coefficient : n-(Octonol / water)	0.44
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	No

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- Pyridine-2-aldehyde is clear yellow to yellow-brown liquid .This chemical is combustible in classification, and its health hazard must be considered. Miscible in water, soluble in most common organic solvents.

10.2. Chemical stability

- The product is Air sensitive. Light sensitive. It is stable at +2^{0}C to +8^{0}C and recommended storage and handling under specified conditions.

10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Has not been reported.

10.4. Conditions to avoid

- Incompatible materials, light, exposure to air, excess heat. Incompatibilities with Other Materials Strong oxidizing agents, oxidizing agents, acids, bases, cyanides.

10.5. Incompatible materials

- Strong oxidizing agents, oxidizing agents, acids, bases and, cyanides.

10.6. Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide, carbon dioxides, oxides of nitrogen and Hydrogen cyanide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- **Eyes:** If the eyes have come in contact with Pyridine-2-aldehyde, then serious eye irritation, pain, swelling, corneal erosion, and blindness may result.
- **Skin:** Dermal exposure may result in dermatitis (red, inflamed skin), may cause an allergic skin reaction.
- **Ingestion:** Signs and symptoms of acute ingestion of Pyridine-2-aldehyde may be harmful.
- **Inhalation:** Acute inhalation exposure may result in, respiratory tract irritation and toxic effect.

RTECS # Not available

- **LD50/LC50:**
- Oral, rat: LD50 = 585 mg/kg (OECD 401)
- Dermal, rat: LD50 > 2000 mg/kg (OECD 402)
- Inhalation, rat: LC50 = 0.8 mg/L/4H (OECD 403)

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes serious eye irritation.

d) Respiratory or skin sensitization

- It may cause respiratory irritation**.** May cause an allergic skin reaction.

e) Germ cell Mutagenicity

- Experiments showed mutagenic effects in cultured bacterial cells.
- Genotoxicity in vitro - Ames test - S. typhimurium – positive.

f) Carcinogenicity

- Not listed by NTP, IARC and OSHA.
- Not present on the EU CMR list.
- According to information presently available Pyridine-2-aldehyde is not found to be carcinogenic.

g) Reproductive toxicity

- No data is available.

h) STOT-single exposure

- May cause respiratory irritation.

i) *STOT- repeated exposure*

- No data available.

j) Aspiration Hazards

- No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1 Ecotoxicity:

Toxic to aquatic organisms like fish and daphnia. It may cause long term effects in the environment. (As per New Zealand Hazardous Substances and New Organisms Act - Classification of Chemicals - Classification Data.)

- Daphnia Magna: EC_{50}: 6.9 mg/l/48 hr
- Fish 32-day ChV 7.349 mg/L (estm. ECOSAR v0.99h)

Birds

- Oral European starling LD50>1000 mg/kg (Ref.: E. Schafer & W.Bowles, USDA, National Wildlife Research Center 2004)
- Oral Japanese quail LD50: 750 mg/kg (Ref.: E. Schafer & W.Bowles, USDA, National Wildlife Research Center 2004)

12.2. Persistence and degradability

It has estimated results classify this chemical substance as persistent in the environment as it degrades slowly into the environment.

- **Abiotic:** OH rate constant: 1.7E-11 cm3/molecule-sec at 25 degrees C (estm.) Half Life t1/2: 23 hours (estm. PBT Profiler Ver 1.203)
- **Biotic:** Biodegradable, 70.3% BOD reduction 28 days (Japan August 2003).

12.3. Bioaccumulative potential

- BCF = 3.2
- Log Kow = 0.44

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 relative to its surroundings.

12.4. Mobility in soil

- Log Koc = 0.7368 (estimated). Low sorption.
- Henry's Law Constant: 1.76 X 10^{-08} atm-m3/mole. It is expected to be non-volatile from aqueous phase.
- Log Kow= 0.44. Negligible potential to bioaccumulation.

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 the environmental modeling, this material has a negligible potential to get absorbed in the organic matter of soil and is expected to be non-volatile from aqueous bodies. Since this is an estimated result it is recommended that the material should not be disposed into the environment. The material should never be disposed into the sewage. It is estimated that pyridine-2-aldehyde has negligible potential to bioaccumulate. It may harm aquatic organism, so do not empty it into drains and water bodies.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is Combustible liquid.
- 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 hazardous for transport by Air/Rail/Road and Sea and thus regulated by IMO/ IMDG/ IATA/ ICAO.

Mode of Transport	Agency
Land transport	ADR/RID
Maritime Transport	IMDG
Air Transport	IATA

14.1. UN number

- UN 2810

14.2. UN proper shipping name

- TOXIC LIQUID, ORGANIC, N.O.S(Pyridine-2-aldehyde)
- **14.3. Transport hazard class(es)**
- Hazard class Toxic 6,(6.1)
- Sub class, 9
- Hazard Label

14.4. Packing group

- II

4.5. Environmental hazards

- **Marine pollutant**-Yes

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.Cat 2; Skin Sens. Cat 1; Acute tox. Oral Cat 4; Acute tox inhalation Cat. 3; Aquatic Chronic Cat 2; STOT SE Cat 3
- **Hazard Statements:** *H315;H319;H317; H302;H331;H411; H335*

Classification as per directive 67/548/EEC

- Classification: T; R23 - Xn; R22 - Xi; R36/37/38 - R43 - N; R51/53
  Xi -Irritant
  Xn -Harmful
  T -Toxic
  N -Dangerous to the Environment

US information

- **TSCA**
  CAS# 1121-60-4 is listed on the TSCA 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.
- **CERCLA Hazardous Substances and corresponding RQs**
  None of the chemicals in this material have an RQ.
- **SARA Section 302 Extremely Hazardous Substances**
  None of the chemicals in this product have a TPQ.
- **Section 313** No chemicals are reportable under Section 313.
- **Clean Air Act:**
  This material does not contain any hazardous air pollutants.
  This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

- **Clean Water Act:**
  None of the chemicals in this product are listed as Hazardous Substances under the CWA.
  None of the chemicals in this product are listed as Priority Pollutants under the CWA.
  None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
- **OSHA:**
  None of the chemicals in this product are considered highly hazardous by OSHA.
- **STATE**
  CAS# 1121-60-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
- **California Prop 65**
  California No Significant Risk Level: None of the chemicals in this product are listed.
- **WGK (Water Danger/Protection)**
  CAS# 1121-60-4: 2
- **Canada - DSL/NDSL**
  CAS# 1121-60-4 is listed on Canada's DSL List.

SECTION 16: OTHER INFORMATION

(a) Compilation information of safety data sheet

Chemical: Pyridine-2-aldehyde

CAS #: 1121-60-4

File Name: 0432Gj Clp09 Div.3 sds Pyridine-2-aldehyde

Revision Number: 09

Date of Issue of SDS: August 25, 2015

Revision Due Date: July, 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 Adminstration 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 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 = Threshhold 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.
- 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
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009
- OECD 401,402,403,404 and 405
- New Zealand Hazardous Substances and New Organisms Act - Classification of Chemicals - Classification Data.
- ESTM. ECOSAR v0.99h
- E. Schafer & W.Bowles, USDA, National Wildlife Research Center 2004
- ESTM PBT Profiler Ver 1.203

Internet

- RTECS
- ESIS

- HSDB
- PBT profiler

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

Risk Phrases	• R23:Toxic by inhalation. • R22:Harmful if swallowed. • R36/37/38:Irritating to eyes, respiratory system and skin. • R43:May cause sensitization by skin contact. • R51/53:Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
Hazards Statements	• H315: Causes skin irritation. • H319: Causes serious eye irritation. • H317: May cause an allergic skin reaction. • H302: Harmful if swallowed. • H331: Toxic if inhaled. • H411: Toxic to aquatic life with long lasting effects. • H335: May cause respiratory irritation.
Safety Phrases	• S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. • S24/25: Avoid contact with skin and eyes. • S36/37/39: Wear suitable protective clothing, gloves and eye / face protection. • S45: In case of accident or if you feel unwell, seek medical advice immediately.(show the label where possible). • S63: In case of accident by inhalation: remove casualty to fresh air and keep at rest. • S61: Avoid release to the environment. Refer to special instructions/safety data sheets.
Precautionary Statements	• P264: P270: P261: P271: P280: P261: P272: P301+312: P330: P301+310: P330: P332+313: P302 + P352: P362: P273: P304 + P340: P311: P305 + P351 + P338: P337+313: P333+313: P363: P312: P391: P210: P405: P403+233: P403+235: P501

Company's Declaration:

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(End of Safety Data Sheet)