



2-Chloronicotinic acid

Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of Compilation : January 10, 2007
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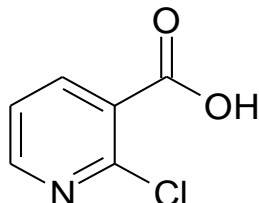
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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

| | |
|--------------------|---|
| PRODUCT NAME | : 2-Chloronicotinic acid |
| CAS RN | : 2942-59-8 |
| EC# | : 220-937-0 |
| SYNONYMS | : 2-Chloro-3-pyridinecarboxylic acid, 2-Chloronicotinic acid, Nicotinic acid, 2-chloro- |
| SYSTEMATIC NAME | : 2-Chloronicotinic acid, 3-Pyridinecarboxylic acid, 2-chloro- |
| MOLECULAR FORMULA | : C ₆ H ₇ N |
| STRUCTURAL FORMULA | : |



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

1.2.1. Relevant identified uses

2-Chloronicotinic acid is used for the preparation of Nicosulfuron which is a sulfonyl urea, Niflumic acid which is an anti-inflammatory, Nevirapine which is a HIV reverse transcriptase inhibitor, Nicobifen which is a fungicide and etc.

Uses advised against: None

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY & REGISTERED OFFICE: Jubilant Ingrevia Limited, Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India
T +91-5924-267437, +91-5924-267438

HEAD OFFICE: Jubilant Ingrevia Limited., Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 – India
T +91-120-4361000 - F +91-120-4234881 / 84 / 85 / 87 / 95 / 96 support@jubl.com - www.jubilantingrevia.com

1.4. Emergency telephone number

For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident)

Call Chemtrec: 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)

Chemtrec (India) : 000-800-100-7141

For ALL other emergencies call Emergency Control Room Gajraula at 99970 22412

SECTION 2: HAZARD(S) IDENTIFICATION

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion / irritant: Category 2

Serious eye damage/eye irritant: Category 2A

Specific target organ toxicity (Single exposure): Category 3

2.2. Label Elements

Hazard Pictogram: GHS07

Signal Word: *Warning!*

HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.





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PRECAUTIONARY STATEMENTS

- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P271: Use only outdoors or in well-ventilated area.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P332+313: If skin irritation occurs: Get medical advice/attention.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P362: Take off contaminated clothing and wash before reuse.
- P305+351+338: IF IN EYES: Rinse continuously 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
- P403+P233: Store in a well ventilated place. Keep container tightly closed.
- P405: Store locked up
- P501: Dispose of the container as per local norms and regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical | CAS # | EC# | Purity |
|------------------------|-----------|-----------|--------|
| 2-Chloronicotinic acid | 2942-59-8 | 220-937-0 | ≥99% |

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

- Remove affected person from danger area. Do not leave affected persons unsupervised. Seek medical treatment. First aid personnel should pay attention to their own safety. Take off all contaminated clothing immediately
- **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.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention.

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

- To the best of our knowledge of this compound have not been fully investigated.

SECTION 5 : FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Suitable extinguishing media: Water spray, carbon dioxide, dry chemical powder, or appropriate foam.
- Unsuitable extinguishing media: Water jet.

5.2. Special hazards arising from the substance or mixture

- **Fire hazard:** emits toxic fumes under fire conditions.
- **Explosion hazard:** Powdered materials may cause dust explosions under certain conditions.
- **Reactivity in case of fire:** Thermal decomposition generates: Toxic vapors which could include nitrogen oxides, carbon monoxide, carbon dioxide and Hydrogen chloride etc
- **Hazardous decomposition products in case of fire:** Hazardous decomposition products may be released during prolonged heating like smokes, include nitrogen oxides, carbon monoxide, carbon dioxide and Hydrogen chloride etc

5.3. Advice for firefighters

- **Precautionary measures fire:** Appropriate self-contained breathing apparatus may be required.
- **Firefighting instructions:** Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. In case of major fire, evacuate area.
- **Protective equipment for firefighters:** Do not enter fire area without proper protection equipment, including respiratory protection

SECTION 6 : ACCIDENTAL RELEASE MEASURES



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6.1. Personal precautions, protective equipment and emergency procedures

- Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.
- Avoid dust formation. Avoid breathing vapors, mist or gas. Avoid contact with skin and eyes.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate

6.2. Environmental precautions

- Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release

6.3. Methods and materials for containment and cleaning up

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing dust.
- Place spillage in appropriately labeled container for disposal. Wash spill site.

6.4. Reference to other sections

- For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- 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.
- Handle in accordance with good industrial hygiene and safety procedures. Avoid Prolonged or repeated exposure.

7.2. Storage

- Store at ambient temperature in a dry and well-ventilated place.
- Keep container tightly closed when not in use.
- Store away from incompatible materials.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

• Exposure Limits Values

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH |
|------------------------|------------|------------|------------|
| 2-Chloronicotinic Acid | Not Listed | Not Listed | Not Listed |

Exposure Limits (International):

- Not available.

OSHA Vacated PELs:

- No OSHA Vacated PELs are listed for this chemical.

8.2. Exposure controls

Appropriate Engineering Controls:

- General industrial hygiene practice.
- 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.

8.3. Personal Protection

- **Hand Protection:** Wear suitable gloves resistant to chemical penetration
- **Eye Protection:** Chemical safety goggles
- **Body Protection:** Wear suitable protective clothing.
- **Respiratory protection:** Where respirators are deemed necessary to reduce or control occupational exposure, use NIOSH-approved respiratory protection and have an effective respirator program in place.

Additional Information

- Only use protective equipment in accordance with national/international regulations. Follow the national regulation about wearing personal protective equipment and the warranty given.
- Apply skin protective barrier cream
- Do not inhale substances, work under hood.

Control of environmental exposure

- Do not let product enter drains.

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- Wash hands and face after working with the substance.
- Under no circumstances eat or drink at the workplace.
- Do not inhale substances, work under hood.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

- Information on basic physical and chemical properties.

| Sr.No. | Parameter | Typical value |
|--------|--|--|
| 1. | Appearance | White or slightly light yellow crystals |
| 2. | Molecular weight | 157.56 |
| 3. | Odor | Characteristic |
| 4. | Odor Threshold | Not available |
| 5. | pH | Not available |
| 6. | Melting point | 176-178°C |
| 7. | Boiling point | 316.8°C at 760 mmHg |
| 8. | Flash point | 145.4±22.3 °C |
| 9. | Evaporation rate (n-BuAc=1) | Not available. |
| 10. | Flammability (Liquid) | Not available |
| 11. | Upper/lower flammability or Explosive limits | Not available. |
| 12. | Vapor pressure | 0.0±0.7 mmHg at 25° |
| 13. | Vapor density (air=1) | Not available. |
| 14. | Relative density | Not available. |
| 15. | Solubility | 0.17 g/100g (water),3260mg/l in water, 2.7 g/100g (methanol),Insoluble in benzene. |
| 16. | Partition coefficient (Octanol /water) | 0.988 |
| 17. | Auto-ignition temperature | Not available. |
| 18. | Decomposition temperature | Not available. |
| 19. | Viscosity | Not available. |
| 20. | Explosive property | No |
| 21. | Oxidizing property | No |

SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available
- **Chemical Stability:** Stable under normal temperature and pressure.
- **Conditions to avoid:** Heat and incompatible materials.
- **Incompatible chemicals:** Strong-oxidizing agents, Bases
- **Hazardous decomposition:** Thermal decomposition may produce Hydrogen chloride, nitrous oxide, carbon monoxide, irritant and toxic fumes and gases, carbon dioxide and nitrogen.
- **Hazardous Polymerization:** Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute studies-

2-Chloronicotinic Acid causes irritation in contact with skin and eyes. It is irritating to mucous membrane and upper respiratory tract.

Target organs:

Skin, eyes and mucous membrane.

Acute toxicity

LD50 (Oral) Rat: 2207.14 mg/Kg (Predicted Oral rat LD50 from Consensus method)



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RTECS # Not available

| | | |
|-----------------------------------|---|---|
| Skin corrosion/irritation | : | Causes skin irritation |
| Serious eye damage/irritation | : | Causes serious eye irritation |
| Respiratory or skin sensitization | : | No data available |
| Germ cell Mutagenicity | : | Negative (Predicted from consensus method USEPA Test Tool). |
| Carcinogenicity | : | Not listed by NTP, IARC and OSHA. |
| Reproductive toxicity | : | No data available. |
| STOT-single exposure | : | May cause respiratory irritation. |
| STOT- repeated exposure | : | No data available |
| Aspiration Hazards | : | No data available. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

- Short-term toxicity to fish- 2-chloronicotinic acid was predicted to have log (LC50) of 1.470 mg/L in fathead minnow after 96h exposure
- Short-term toxicity to aquatic invertebrates- 2-chloronicotinic acid was predicted to have log (LC50) of 7.426 mg/L in fathead minnow after 48h exposure.
- Toxicity to aquatic algae and cyanobacteria- 2-chloronicotinic acid was predicted to have log (LC50) of 422.55mg/L in fathead minnow after 96h exposure.

12.2. Persistence and degradability

- 2-Chloronicotinic acid is not expected to be persistent in the environment, is not expected to bioaccumulate, and does not biodegrade readily.

12.3. Bio accumulative potential

- Log Pow =0.988. Low potential to bio accumulate

12.4. Mobility in soil

- Koc=23.96. Moderate mobility in soil.
- Henry's Law constant: 2.473E-008 atm-m³/mole. Moderately volatile from aqueous bodies

12.5. Other adverse effects

- **Environment Fate:**
Based on environmental modeling, this material is not expected to be persistent in the environment, is not expected to bioaccumulate, and does not biodegrade readily.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Contact a licensed professional waste disposal service to dispose of this material.
Dispose in a safe manner in accordance with local/national regulation. Observe all federal, state and local environmental regulation.
Contents should be removed completely when dispose of empty containers.

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/US DOT /IMO/IMDG.

| ADR/ RID/ DOT | IMDG | IATA |
|---|---------------------|---------------------|
| 14.1. UN number | | |
| Not applicable | Not applicable | Not applicable |
| 14.2. UN proper shipping name | | |
| Not dangerous goods | Not dangerous goods | Not dangerous goods |
| 14.3. Transport hazard class(es) | | |



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| | | |
|--|---|------------------------------------|
| Not applicable | Not applicable | Not applicable |
| 14.4. Packing group | | |
| Not applicable | Not applicable | Not applicable |
| 14.5. Environmental hazards | | |
| Dangerous for the environment : No | Dangerous for the environment : No Marine pollutant : No | Dangerous for the environment : No |
| No supplementary information available | | |

SECTION 15: REGULATORY INFORMATION

Classification as per CLP Regulation 1272/2008:

Hazards Class and Category:

Skin corrosion / irritant: Category 2

Serious eye damage/eye irritant: Category 2A

Specific target organ toxicity (Single exposure): Category 3

- **Hazard Statements:** H315; H319; H335

| Chemical Inventory Lists: | Status |
|---|-------------------------|
| TSCA: | Listed- (Active) |
| EC Inventory | Listed |
| Canada(DSL/NDSL): | Listed (DSL) |
| China Catalog of Hazardous chemicals 2015 | Not Listed |
| New Zealand Inventory of Chemicals (NZIoC) | Not Listed |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS) | Not Listed |
| Existing Chemicals List (KECI) | Listed |
| China: IECSC | Listed |
| Australia | Not Listed |
| Korea Existing Chemicals List (KECL) | Listed |
| Japan Existing and New Chemical Substances Inventory (ENCS) | Listed |

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2-Chloronicotinic acid not listed

SARA 302/304 : 2-Chloronicotinic acid not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: 2-Chloronicotinic acid not listed

CAA (Clean Air Act): 2-Chloronicotinic acid not listed

CWA (Clean Water Act): 2-Chloronicotinic acid not listed

EU Information

Water hazard class (WGK) 3, Severe hazards to water

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: 2-Chloronicotinic acid not listed.

SECTION 16: OTHER INFORMATION



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a) Compilation information of safety data sheet

Date of compilation : January 10, 2007
Chemical : **2-Chloronicotinic acid**
CAS # : 2942-59-8
File Name : 0064Gj Ghs08 Div.05 sds 2-Chloronicotinic acid
Revision Number : 08
Date of Revision : February 26, 2024
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Supersedes date : January 02, 2024

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

- PBT =Persistent Bio accumulative and Toxic.
- vPvB= Very Persistent and Very Bio accumulative.
- 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 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.
- 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 .Authorization and Restriction of Chemicals.
- CLP = Classification, Labeling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- 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

- Globally Harmonized System of Classification and Labelling of Chemicals.
- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 830/2015

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)