

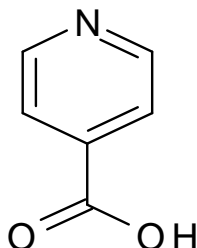
SAFETY DATA SHEET**Section 1: IDENTIFICATION**

Product Name Isonicotinic Acid
CAS RN 55-22-1
EC# 200-228-2
SYNONYMS 4-Picolinic acid, gamma-Picolinic acid
 Gamma-Pyridinecarboxylic acid

OTHER LANGUAGES
De: Isonicotinsäure
Es: ácido isonicotínico
Fr: acide isonicotinique

SYSTEMATIC NAME 4-Pyridinecarboxylic acid (9CI+)

MOLECULAR FORMULA C₆H₅NO₂

STRUCTURAL FORMULA**INGREDIENTS**

Chemical	CAS	Purity	unit
Isonicotinic Acid	55-22-1	approx.99%	w/w

PRODUCT USES

Isonicotinic Acid is used as an intermediate in pharmaceutical industry for making isoniazid .

FACTORY & REGISTERED OFFICE:

Jubilant Life Sciences Limited,
 Bhartiagram, Gajraula
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Section 2: HAZARD IDENTIFICATION

GHS CLASSIFICATION

Skin corrosion / irritant: Category 2
Serious eye damage/eye irritant: Category 2A



OVERVIEW

Off white to pale yellow solid. It is non-flammable and water-soluble. It may cause irritation to skin and respiratory system, which may be cumulative and allergenic.

Classification as per CLP Regulation (EC 1272/2008)

Serious eye damage/irritation: Category 1
Skin irritation: Category 2
STOT Single Exposure: Category 3

Signal word: Danger!

Hazard Pictograms: GHS 05, GHS 07

HAZARD STATEMENTS

H318: Causes serious eye damage.
H315: Causes skin irritation
H335: May cause respiratory irritation

PRECAUTIONARY STATEMENTS

Prevention

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash hands thoroughly after handling.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.

Response

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Immediately call a POISON CENTER or doctor/physician.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P332+P313: 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.

Storage

P405: Store locked up

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Disposal

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

Section 3: Composition of ingredients

Sr.No.	Chemical	CAS #	EC#	Purity
1	Isonicotinic Acid	55-22-1	200-228-2	>99%

Section 4: First Aid Measures**Key symptoms****Acute effects:**

- Irritant to eyes. May lead to corneal opacification. (PHARM CHEM J (ENGL TRANSL KHIM-FARM ZH); 11 (4 PART 1). 1977 (1978) 481-483)
- Respiratory irritant may have allergic and cumulative effects. (KHIM-FARM ZH; 11 (4). 1977 45-48)
- Behavioral somnolence, change in motor activity observed in animal studies. (RTECS)

Chronic effects:

May affect liver function as target organ. (RTECS)

FIRST AID:

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.

Section 5: Fire Fighting Measures

Flash Point: No data available

Extinguishing media

Water spray, carbon dioxide, dry chemical powder, and chemical foam. Do not permit water to get inside containers.

Special fire fighting procedures

As in any chemical fire wear a self-contained breathing apparatus MSHA/NIOSH (or equivalent approved) and full protective gloves. Do not permit the chemical/ fire effluent to enter the environment as far as possible.

Unusual fire and explosion hazard: During combustion toxic and irritating fumes including that of carbon monoxide, nitrogen oxides and hydrogen cyanide may be emitted, carbon monoxide.

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.
- Shut off all possible sources of ignition.
- 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..
- 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.
- 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 & Storage
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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.
- Use in a well ventilated place/Use protective clothing commensurate with exposure levels.

Storage

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

Section 8: Exposure Controls/Personal Protection

Exposure Limits

Chemical name	ACGIH	NIOSH	OSHA-Final PELs
Isonicotinic Acid	None Listed	None Listed	None Listed

OSHA Vacated PELs: Isonicotinic Acid: No OSHA Vacated PELs are listed for this chemical.

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.

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 Dermatril® (full contact), 740 Dermatril® (splash contact).

Section 9: Physical and Chemical Properties
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Sr.No.	Parameter	Typical value
1	Appearance	Off-white to pale yellow powder
2	Odor	Odorless
3	Odor Threshold	Not available
4	Melting point	315 °C
5	Boiling point	260°C @15mmHg
6	Flash point	Not available
7	Evaporation rate (n-BuAc=1)	Not available
8	Explosive limits	Not available
9	Vapor pressure	0.00789 mm Hg @25°C (SRC est.)
10	Vapor density (air=1)	4.2
11	Specific gravity (water=1)	Not available
12	Solubility	5.2 g/lit @20°C
13	pH	3-4 (satd soln 6g/l)
14	Log Pow (octanol/water)	0.32
15	Auto-ignition temperature	> 500°C
16	Decomposition temperature	Not available
17	Viscosity	Not available
18	Bulk density	500 Kg/m ³
19	Molecular Weight	123.11
20	pKa (@25°C)	4.9
21	Koc	53.46
22	Flammable material	No
23	Oxidizer	No
24	Pyrophoric material	No
25	Explosive material	No

Section 10: Stability and Reactivity

Stability: Stable under normal temperatures and conditions.

Conditions to avoid: Keep away from heat, sparks, flame, high temperature and incompatible chemicals.

Incompatible chemicals: Strong acids and bases, strong oxidizing agents

Hazardous decomposition: Carbon monoxide, hydrogen cyanide, nitrogen oxides may be produced.

Hazardous Polymerization: Not expected

Section 11: Toxicological Information**ACUTE EFFECTS:**

- Irritant to eyes. May lead to corneal opacification. (PHARM CHEM J (ENGL TRANSL KHIM-FARM ZH); 11 (4 PART 1). 1977 (1978) 481-483)
- Respiratory irritant may have allergic and cumulative effects. (KHIM-FARM ZH; 11 (4). 1977 45-48)
- Behavioral somnolence, change in motor activity observed in animal studies. (RTECS)

CHRONIC EFFECTS: May affect liver function as target organ. (RTECS)

TOXICITY:

RTECS#: NS1103000

- ORL RAT LD₅₀ : 5000mg/kg
- ORAL MOUSE LD₅₀: 3123 mg/kg
- INTRAVENOUS MOUSE LD₅₀: 5000 mg/kg

GERM CELL MUTAGENICITY: No data available

CARCINOGENICITY

- Not listed by NTP, IARC and OSHA.
- Not present on the EU CMR list.
- According to information presently available Isonicotinic Acid is not found to be carcinogenic. (Potential Carcinogenic Hazards From Drugs, UICC Monograph Series, Vol. 7, pages 180- 187, 1967)

REPRODUCTIVE TOXICITY: No data is available

Section 12: Ecological Information**Ecotoxicity:**

No data available.

Mobility:

- $K_{oc}=14.49$ (estimated). Moderate mobility in soil.
- Henry's Law constant: $3.069E-011$ atm-m³/mole. Non- volatile from aqueous bodies.
- $\log P_{ow}=0.32$ (estimated). No bioaccumulation is to be expected.

Biodegradation

Biodegradable in aerobic and anaerobic conditions

Section 13: Disposal Consideration

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Exert extra care in igniting, as this material is highly flammable.
- 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.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14: Transport Information

Not regulated under IMO/IMDG/US DOT/IATA

Section 15: Regulatory Information

European information

EC# 200-228-2

Classification: Xi; R36/37/38 - R41

Xi Irritant

RISK PHRASES

- R36/37/38 Irritating to eyes, respiratory system and skin.
- R41 Risk of serious damage to eyes.

SAFETY PHRASES

- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 36/39 Wear suitable protective clothing and eye/face protection
- S 22 Do not breathe dust.

Classification as per CLP Regulation EC 1272/2008

Serious eye damage Cat.1; Skin irritation Cat.2; STOT SE Cat.3

Hazard Statements: H318; H315; H335**CLP Notification Number: 02-2119563000-57-0000****Pre-registration status under REACH regulation**

EC Name	Submission Number	Pre-registration Number	Name of the Organization (OR)	Validity
Isonicotinic acid	JH242182-51	05-2114623332-61-0000	Jubilant Pharmaceuticals NV	31/05/2018

US information

- **TSCA**
CAS# 55-22-1 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.
- **SARA**
Section 302 (RQ)
None of the chemicals in this material have an RQ.
- **Section 302 (TPQ)**
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# 55-22-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
- **California**
No Significant Risk Level: None of the chemicals in this product are listed. Class D, Division 1, Subdivision B: Toxic Material.

Section 16: Other Information**SDS data****Chemical:** Isonicotinic Acid**CAS #:** 55-22-1**File Name:** 0219C00 Div.03 sds Isonicotinic acid**Date:** December 2nd, 2010**Revision Number:** 00

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