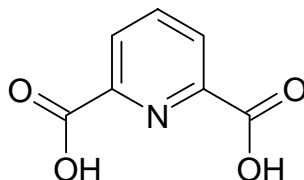


SAFETY DATA SHEET**Section 1: IDENTIFICATION**

PRODUCT NAME Dipicolinic acid
CAS RN 499-83-2
EC# 207-894-3
OTHER LANGUAGES **De :** Dipicolinic Säure
Es : Dipicolinic ácido
Fr : Dipicolinic acide

SYSTEMATIC NAME 2,6-Pyridinedicarboxylic acid

MOLECULAR FORMULA C₇H₅NO₄
STRUCTURAL FORMULA

**INGREDIENTS**

Chemical	CAS	Purity	Unit
Dipicolinic acid	499-83-2	> 98 %	w/w

PRODUCT USES

Pyridinecarboxylic acids and their derivatives are used as an intermediate to produce pharmaceuticals and metal salts for the application of nutritional supplements. It is probably used as an intermediate in the pharmaceutical industry. It acts a chelating agent and an enzyme inhibitor.

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Section 2: HAZARD IDENTIFICATION**GHS CLASSIFICATION**

Eye irritation: Category 2B

Skin Corrosion/irritation: Category 2

**OVERVIEW**

It is white crystalline powder and very slightly soluble in water.

Warning!

Irritating to skin, eyes and respiratory system

PRECAUTIONARY STATEMENTS**Prevention**

- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Wash hands thoroughly after handling.

RESPONSE

If on Skin (or hair): Remove/take off immediately all contaminated clothing.

Rinse skin with water/shower. Wash contaminated clothing before use.

Immediately call a doctor or poison center in all incidents.

If in Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion: Rinse mouth. If swallowed do NOT induce vomiting. Call a POISON CENTRE or doctor/Physician if you feel unwell.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.

Absorb spillage to prevent material damage.

Do not use water to extinguish. Use water fog (spray), foam, Dry Chemical Powder or carbon dioxide.

Storage

Store locked up

Store in a corrosive resistant container.

Disposal

Dispose of the container as per local norms and regulations.

Section 3: Composition of ingredients

Sr.No.	Chemical	CAS #	EC#	Purity
1.	Dipicolinic acid	499-83-2	207-894-3	> 98 %

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

- It is irritating to skin, eyes and respiratory system.

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: 188⁰ C

Extinguishing media

Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. 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.

Section 6: Accidental Release Measures**Minor Spills**

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid contact with skin and eyes.
- 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.
- 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 & Storage**Handling**

- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Avoid generating dust.

Storage

- Store in a cool, well ventilated place
- Keep only in original container.

Section 8: Exposure Controls/Personal protection**Exposure Limits**

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
Dipicolinic acid	None available	None available	None available	None available

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.

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.

General Hygiene and general comments:

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.

Section 9: Physical and Chemical Properties
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Sr.No.	Parameter	Typical value
1	Appearance	White crystalline powder
2	Odour	Odorless
3	Odour Threshold	Not available
4	pH	Not applicable
5	Melting point	248-250 ⁰ C
6	Boiling point	Not applicable
7	Flash point	188 ⁰ C
8	Evaporation rate (n-BuAc=1)	Not available
9	Explosive limits	Not available
10	Vapor pressure	6.1 x 10 ⁻⁶ mm Hg at 25 ⁰ C (estimated)
11	Relative Vapor density (air=1)	Not available
12	Density	Not available
13	Water Solubility	5 g/L (@ 20 ⁰ C)
14	Log Kow (octanol/water)	0.57
15	Auto-ignition temperature	620 ⁰ C
16	Decomposition temperature	>230 ⁰ C
17	Viscosity	Not applicable
18	Molecular Weight	167.12
19	PKa (@30 ⁰ C)	2.16
20	Log Koc	1.855
21	Flammable material	No
22	Oxidizer	No
23	Corrosive material	No
24	Explosive material	No

Section 10: Stability and Reactivity

Stability: Stable at normal conditions of temperature and pressure.

Conditions to avoid: Store in tightly closed containers in a well ventilated area.

Incompatible chemicals: Acids, Bases, Oxidizing agents.

Hazardous decomposition: Thermal decomposition may produce nitrogen oxides, carbon dioxide and carbon monoxide.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information**a) Acute Toxicity:**

It causes irritation to skin, eyes and respiratory system.

- **RTECS#:** Unlisted
- **LD50/LC50:** Not available

b) Skin Corrosion/irritation

- Causes skin irritation

c) Serious eye damage/irritation:

- Causes eye irritation

d) Respiratory or skin sensitization:

- Causes irritation to respiratory system

e) Germ cell mutagenicity:

- No data is available

f) Carcinogenicity:

- Not listed by NTP, IARC.
- According to the information presently available Dipicolinic acid has not been tested for its ability to cause cancer in animals.

g) Reproductive Toxicity:

- According to the information presently available Dipicolinic acid has not been tested for its ability to affect reproduction.

Section 12: Ecological Information**(a) Ecotoxicity:**

- The Ecotoxicity data is not available.
- Fish ChV (mg/l) : 2800 mg/l (expected)

Based on the estimated value it is expected to be non- toxic to fish and other aquatic organisms.

(b) Persistence and Degradability

- It is expected to be readily biodegradable in aerobic and anaerobic conditions.

(c) Bioaccumulative Potential (Predicted)

- BCF = 3.2
- Log Kow = 0.57

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.

(d) Mobility (Predicted):

- Log Koc = 1.855 (estimated). Low sorption.
- Henry's Law Constant = 2.86×10^{-15} atm/m³ mole at 25 degrees. It is non-volatile from aqueous bodies.
- Log Kow = 0.57 (estimated). Low potential to bioaccumulate.

(e) Environment Fate:

Based on the environmental modeling, this material has a low potential to get absorbed in the organic matter of soil and is non-volatile from water 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.

Section 13: Disposal Consideration

- 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

- It is considered to be Non Hazardous for Transport by Road/Rail/Sea/Air and not regulated by ADR/RID/IMDG/IATA.

Section 15: Regulatory Information**European information**

EC# 207-894-3

Classification: Xi; R36/37/38

Xi Irritant

RISK PHRASES

- R36/37/38 Irritating to eyes, respiratory system and skin.

SAFETY PHRASES

- S24/25 Avoid contact with skin and eyes.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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

EC Name	Submission Number	Pre-registration Number	Name of the Organization (OR)	Validity
Pyridine-2,6-dicarboxylic acid	XM240691-20	05-2114618661-51-0000	Jubilant Pharmaceuticals NV	31/05/2018

US FEDERAL

- CAS# 499-83-2 is listed on the TSCA inventory.

CANADA

- CAS# 499-83-2 is listed on Canada's DSL List.
- CAS# 499-83-2 is not listed on Canada's Ingredient Disclosure List.

Section 16: Other Information

SDS data**Chemical:** Dipicolinic acid**CAS #:** 499-83-2**File Name:** 0036A00 Div.03 sds Dipicolinic acid**Date:** January 13, 2009**Revision Number:** 00

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