

Safety Data Sheet

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

Date of Compilation : February 01, 2012

Date of Revision : April 02, 2024

Revision due date : March 2027

Revision Number : 00

Version Number : 0508Gj Ghs00 Div.3 sds 2,6-Dimethoxypyridine

Supersedes date : Not applicable

Supersedes version : Not applicable



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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

PRODUCT NAME : 2,6-Dimethoxypyridine.

CAS RN : 6231-18-1
EC# : 228-334-4
SYNONYMS : Not available
SYSTEMATIC NAME : 2,6-Dimethoxypyridine

MOLECULAR FORMULA : C₇H₉NO₂

STRUCTURAL FORMULA

MeO N OMe

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

1.2.1. Relevant identified uses

2,6-Dimethoxypyridine is used as an intermediate in the synthesis of Pentoprazole sodium which is used to treat Gastro esophageal Reflux

Diseases

1.2.3 <u>Uses advised against</u>: 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

Classification according to regulation (EC) 1272/2008

Acute toxicity, Oral (Category 4), H302 Skin irritation (Category 2), H315 Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), H335

2.2. Label Elements

Hazard Pictogram: GHS05 and GHS07

Signal Word: Danger!



<u>Hazard and precautionary statements:</u> <u>Hazard Statements</u>

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- H302: Harmful if swallowed.
- H318: Causes serious eye damage.
- H315: Causes skin irritation.
- H335: May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264: Wash hands and face thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in well ventilated area.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330: Rinse mouth.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P332+P313: If skin irritation occurs: Get medical advice/attention...
- P310: Immediately call a POISON CENTER or doctor/physician.
- P362:Take off contaminated clothing and wash before reuse.
- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P405: Store locked up.
- 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

Substance	CAS No. EIN	EINECS No.	Purity	Classification acc. to reg.(EC) no. 1272/2008	
				Hazard Classes and categories	Hazard Statements
2,6-Dimethoxypyridine	6231-18-1	228-334-4	99 % w/w	Acute toxicity, Oral (Category 4) Skin irritation (Category 2) Serious eye damage (Category 1) Specific target organ toxicity - single exposure (Category 3)	H302 H315 H318 H335

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

Acute effects:

- Eyes: Irritation, redness, pain, burns, loss of vision. High concentrations are extremely destructive (Damage) to tissues of eyes.
- Skin: Irritation, pain, redness, burns.
- Ingestion: Abdominal pain, burning sensation, diarrhea, shock or collapse, sore throat or vomiting. May include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Exposure can cause gastrointestinal disturbance.



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- Inhalation: Sore throat, cough, burning sensation, shortness of breath, labored breathing, headache, nausea and vomiting. Exposure can cause headache, dizziness. High concentrations are extremely destructive to tissues of the mucous membranes and upper respiratory tract. Chronic effects:
- To the best of our knowledge prolonged effects of this material have not been thoroughly investigated.

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

Treat symptomatically. In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to
persons who are unconscious.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable: Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may also be used. Water spray 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 nonflammable 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 carbon dioxide.
- 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).
- 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.
- Use non-sparking tools.

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 materials for containment and cleaning up

Clean up all spills immediately following relevant Standard Operating Procedures.



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- Wipe up spillage or collect spillage using a high-efficiency vacuum cleaner. Avoid breathing vapours.
- Place spillage in appropriately labeled container for disposal. Wash spill site.
- Decontaminate all equipment.

6.4. Reference to other sections

For disposal see section 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. Storage

- Store at ambient temperature in a dry and well ventilated place away from heat, flame and sparks.
- Store away from incompatible materials.
- Keep only in original and tightly closed container.
- Keep securely closed when not in use.

7.3. Specific end use(s)

 2,6-Dimethoxypyridine is used as an intermediate in the synthesis of Pentoprazole sodium which is used to treat Gastro esophageal reflux diseases.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,6-Dimethoxypyridine	Not established	Not established	Not established

Exposure Limits (International):

Not available.

OSHA Vacated PELs:

No OSHA Vacated PELs are listed for this chemical.

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. The protective gloves to be used must comply with the specifications of EC directives 89/686/EEC and the resultant standard EN374.
- 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

Information on basic physical and chemical properties.



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S.No	Parameter	Typical value
1.	Appearance	Colourless to pale yellow clear liquid
2.	Odor	Sweet
3.	Odor Threshold	Not available
4.	рН	5-6
5.	Melting point/Freezing point	Not available
6.	Boiling Point	178.0 - 180.0° C @ 760.00 mm Hg
7.	Flash point	61°C
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Combustible liquid
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	0.289 mm Hg @ 25 °C(Estimated)
12.	Vapor density (air=1)	Not available
13.	Relative density	1.053 g/cm3 at 25 °C
14.	Solubility	Slightly soluble in water (917mg/l)
15.	Partition coefficient : n-(Octonol / water)	2.3
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

2,6-Dimethoxypyridine is colorless to pale yellow clear liquid. It is combustible in nature and slightly soluble in water.

10.2. Chemical stability

Stable under normal condition of temperature and pressures.

10.3. Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

10.4. Conditions to avoid

Keep away from High temperature, mechanical shock, incompatible materials, ignition sources, excess heat. Avoid loosely closed container.

10.5. Incompatible materials

Mineral acids (oxidizing and non-oxidizing), strong oxidizing agents.

10.6. Hazardous decomposition products

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

111: TOXICOLOGICAL INFORMATION

SECTION 11:

11.1. Information on toxicological effects

a) Acute toxicity.

It causes irritation to skin, eyes and respiratory system. To the best of our knowledge the chemical, physical and toxicological properties of this chemical have not been thoroughly investigated.

RTECS#: Not listed.

LD50 (Oral) Rat: 500 mg/kg.

b) Skin corrosion/irritation

- Causes skin irritation.
- Serious eye damage/irritation
 - Causes serious eye damage.
- Respiratory or skin sensitization
 - No data is available.
- Germ cell Mutagenicity



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No data is available.

f) Carcinogenicity

- Not listed by NTP, IARC.
- According to the information presently available 2,6-Dimethoxypyridine has not been tested for its ability to cause cancer in animals.
- g) Reproductive toxicity
 - According to the information presently available 2,6-Dimethoxypyridine has not been tested for its ability to affect reproduction.
- 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:

- Fish ChV (mg/l): 17
- LC50(Fish): >100mg/l

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

12.2. Persistence and degradability

• It is not expected to be readily biodegradable in aerobic and anaerobic conditions.

12.3. Bio accumulative potential

- BCF = 12
- Log Kow = 2.3

Based on the Log Kow and Bio concentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms.

12.4. Mobility in soil (Estimated)

- Log Koc= 1.923 (estimated). Low sorption.
- Henry's Law Constant= 2.05E-06 atm-m3/mole at 25 degrees. It is slightly volatile from aqueous bodies.
- Log Kow= 2.3 (estimated). Low potential to bio accumulate.

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 low potential to get absorbed in the organic matter of soil and is slightly 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 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 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.

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.

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)			
	Not applicable	Not applicable	Not applicable	
14.4.	Packing group			



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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: Acute Tox Cat. 4, Eye Dam.Cat.1, Skin Irrit.Cat.2, STOT single exposure Cat.3
- Hazard Statements: H302;H318; H315;H335

Classification (as per Regulation (EC) No 1272/2008):

US FEDERAL

• TSCA

CAS# 6231-18-1 is not listed on the TSCA inventory. It is for research and development use only.

. 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# 6231-18-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

Product not listed.

- CANADA
- The substance is not specified in any of the list and there is no control measure imposed on the substance.

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Chemical: 2,6-Dimethoxypyridine

CAS #: 6231-18-1

File Name: 0508Gj Ghs00 Div.3 sds 2,6-Dimethoxypyridine

Revision Number: 00

Date of Issue of SDS: April 02, 2024 Revision Due Date: March, 2027

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

• PBT =Persistent Bio accumulative and Toxic



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- 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
- 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 .Authorization and Restriction of Chemicals
- CLP = Classification, Labeling and Packaging
- LD / LC = Lethal Doses / Lethal Concentration
- GHS = Globally Harmonized 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

Internet

RTECS

d) List of Hazard statements.

Hazards Statements	 H302: Harmful if swallowed. H318: Causes serious eye damage. H315: Causes skin irritation. H335: May cause respiratory irritation.
	1 1000. Way cause respiratory initiation.

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 Ingrevia Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)