



## 2-Bromo-5-methylpyridine

### Safety Data Sheet

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

Date of compilation	: December 21, 2019
Date of Revision	: February 19, 2024
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File Name	: 0378Gj Ghs03 Div.03 sds 2-Bromo-5-methylpyridine
Revision Number	: 03
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Supersedes date	: January 02, 2024

# 2-Bromo-5-methylpyridine

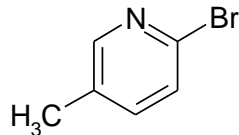
## Safety Data Sheet

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

#### 1.1. Product identifier

PRODUCT NAME	: 2-Bromo-5-methylpyridine
CAS RN	: 3510-66-5
EC#	: 609-062-9
SYNONYMS	: Pyridine, 2-bromo-5-methyl-; 2-bromo-5-methyl-pyridine; 2-Bromo-5-picoline.
TRADE NAME	: 2-Bromo-5-methylpyridine
MOLECULAR FORMULA	: C <sub>6</sub> H <sub>6</sub> BrN
STRUCTURAL FORMULA	



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

##### 1.2.1. Relevant identified uses

2-Bromo-5-methylpyridine is used as an intermediate in the pharmaceutical industry for the manufacture of Avosentan (a selective endothelin receptor antagonist, decreases albuminuria in patients with diabetic nephropathy).

**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](mailto:support@jubl.com) - [www.jubilantingrevia.com](http://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

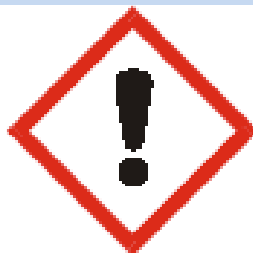
##### GHS US Classification

Acute toxicity (Category 4)	H302 -	Harmful if swallowed
Skin irritation (Category 2)	H315 -	Causes skin irritation.
Eye irritation (Category 2)	H319 -	Causes serious eye irritation
Specific target organ toxicity		
Single exposure (Category 3)	H335 -	May cause respiratory irritation

**Other hazards:** None

#### 2.2. Label Elements

**Hazard Pictogram:** GHS 07



GHS 07: Exclamation Mark

**Signal Word:** Warning!



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#### HAZARD AND PRECAUTIONARY STATEMENTS:

##### HAZARD STATEMENTS

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

##### PRECAUTIONARY STATEMENTS

- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P270: Do not eat, drink or smoke when using this product.
- P271: Use only outdoors or in a well-ventilated area.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+352: IF ON SKIN: Wash with plenty of soap and water.
- P330: Rinse mouth.
- P332+313: If skin irritation occurs: Get medical advice/attention.
- 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+P313: If eye irritation persists: Get medical advice attention
- P304+340: 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.
- 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

None

#### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

##### 3.1 Substances

Chemical	CAS #	EC No.	Purity	GHS US classification
2-Bromo-5-methylpyridine	3510-66-5	609-062-9	~98%	Skin irritation (Category 2), H315 Eye irritation (Category 2), H319 Specific target organ toxicity - single exposure (Category 3), H335

##### 3.2 Mixtures

Not applicable

#### SECTION 4: FIRST AID MEASURES

##### 4.1 Description of first aid measures

- **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 centre if you feel unwell. Rinse mouth. INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not re-enter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

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

###### Key symptoms:

###### Acute effects



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- 2-Bromo-5-methylpyridine causes skin, eyes and respiratory tract irritation. It may be harmful by inhalation, ingestion or skin absorption.

#### 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

Note to physicians: Treat symptomatically

### SECTION 5 : FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

- *Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. Do not permit water to get inside containers. Water 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 non-flammable mixtures fog or alcohol-resistant foam by directing streams to the periphery of the fires to prevent spread.

#### 5.2 Special hazards arising from a substance or mixture

- Toxic vapours may be released on thermal decomposition including nitrogen oxides, carbon monoxide, Carbon di-oxide, hydrogen cyanide, halogenated compounds e.g HBr gas and irritating and toxic fumes are produced during combustion.
- High vapour concentration may result in an explosion hazard.
- Vapours are heavier than air. May travel considerable distance from source and flashback.

#### 5.3 Advice for Fire Fighters

- 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.
- Do not get water inside the containers.
- As in any fire, wear a NIOSH-approved or equivalent, pressure-demand, self-contained breathing apparatus and full protective gear.
- During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
- Report any run-off of fire waters 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

- **Personal precautions:** Evacuate personnel to safe areas. Control access to area. Use personal protective equipment.

#### 6.2 : Environmental precautions

- Prevent further leakage or spillage if safe to do so.
- Use appropriate container to avoid environmental contamination.
- Do not flush into surface water or sanitary sewer system.
- Do not allow material to contaminate ground water system.
- Local authorities should be advised if significant spillages cannot be contained.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal.

#### 6.3 : Methods and materials for containment and cleaning up

- Clean-up methods - small spillage: Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Clean-up methods - large spillage: Do not flush with water. Prevent further leakage or spillage. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal.

#### 6.4 : Reference to other sections

- Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

- Do not breathe vapour 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.



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- Use in a well-ventilated place/Use protective clothing commensurate with exposure levels.

#### 7.2 Storage

- Store at ambient temperature in a well-ventilated and dry place.
- Keep container tightly closed.
- Store away from incompatible materials.

#### 7.3 : Specific end use(s)

- Not available

### SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters

- Exposure Limits Values

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2-Bromo-5-methylpyridine	None Listed	None Listed	None Listed

#### 8.2 Exposure Controls

##### 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.

##### 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	White to pale yellow color low melting solid/ semi solid/ liquid.
2.	Odor	Not available
3.	Odor Threshold	Not available
4.	Molecular weight	172.02
5.	pH	Not available
6.	Melting point/Freezing point	40-45 °C
7.	Boiling point	95-96 °C ( 12.5 mmHg)
8.	Flash point	103 °C- closed cup
9.	Evaporation rate (n-BuAc=1)	Not available



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10.	Flammability (Solid, gas)	Not Flammable
11.	Upper/lower flammability or Explosive limits	Not available
12.	Vapor pressure	0.447 mm Hg at 25°C(Estimated)
14.	Relative density	1.46 g/cm <sup>3</sup> (estimated)
15.	Solubility	Insoluble in water Soluble in methanol
16.	Log Pow, partition coefficient( Octonol /water)	2.24 (estimated)
17.	Auto-ignition temperature	Not available
18.	Decomposition temperature	Not available
19.	Viscosity	Not available
20.	Explosive property	Not explosive
21.	Corrosive material	Not available
22.	Oxidizer	Not available

#### SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:** Not known, based on available information.

**10.2 Stability:** Stable under specified condition of temperature and pressure.

**10.3 Conditions to avoid:** Keep away from heat, moisture and incompatible chemicals. Avoid excessive heat and light.

**10.4 Incompatible chemicals:** Strong oxidizing agents and reducing agents.

**10.5 Hazardous decomposition products:** Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide, Carbon di-oxide, hydrogen cyanide, halogenated compounds e.g HBr gas and irritating and toxic fumes is produced during combustion.

**10.6 Hazardous Polymerization:** Not reported.

#### SECTION 11: TOXICOLOGICAL INFORMATION

##### 11.1 Information on toxicological effects

Acute toxicity LD50 (Oral) Rat	: 501.34 mg/kg (Predicted Oral rat LD50 from Consensus method)
Skin Corrosion/ Irritation	: Causes skin irritation.
Serious Eye Damage/Irritation	: It causes serious eye irritation.
Respiratory Or Skin Sensitization	: Not available.
Germ Cell Mutagenicity	: Not available.
Carcinogenicity	: Not listed by NTP, IARC and OSHA. Not present on the EU CMR list. According to information presently available 2-bromo-5-methylpyridine is not found to be carcinogenic.
Reproductive Toxicity	: Not available.
STOT-Single Exposure	: May cause irritation to respiratory system.
STOT- Repeated Exposure	: Not available.
Aspiration hazard	: Not available.

#### SECTION 12: ECOLOGICAL INFORMATION



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#### 12.1 Toxicity

- Fathead minnow LC<sub>50</sub> (96 hr) : 94.30 mg/L (Predicted Fathead minnow LC<sub>50</sub> (96 hr) from Consensus method)

#### 12.2 Persistence and degradability

##### 2-Bromo-5-methylpyridine (3510-66-5)

Persistence and degradability	It is not expected to be readily biodegradable in aerobic and anaerobic conditions.
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2-Bromo-5-methylpyridine is expected to be found predominantly in soil and its persistence estimate is based on its transformation in this medium. Its half-life in soil, 75 days, exceeds the EPA criteria of  $\geq 2$  months (and  $\leq 6$  months). Therefore, 2-Bromo-5-methylpyridine is estimated to be persistent in the environment.

#### 12.3 Bioaccumulative potential

##### 2-Bromo-5-methylpyridine (3510-66-5)

Bioconcentration factor (BCF REACH)	14 L/Kg
Log Pow	2.24 (estimated)

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.

#### 12.4 Mobility in soil

##### 2-Bromo-5-methylpyridine (3510-66-5)

Mobility in soil	Not available
Henry's Law Constant	3.10E-006 atm-m <sup>3</sup> /mole. Moderately volatile
Koc	184.6 (estimated). Moderate absorption.

#### 12.5 Other adverse effects

Other information : 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

**Waste disposal recommendations**

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- 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.

#### Environmental hazards

- This chemical is not a marine pollutant.

### SECTION 15: REGULATORY INFORMATION

#### 15.1 Safety, Health and environmental regulation/legislation specific for the substance or mixture

##### Classification as per GHS HazCom 2012:

- Hazards Class and Category:** Acute toxicity (Oral) Cat 4; Skin Irr. Cat 2; Eye Dam. Cat 2A; STOT SE Cat 3.
- Hazard Statements:** H302, H315; H319; H335

Chemical Inventory Lists:	Status
TSCA:	Not Listed
EINECS:	609-062-9
Canada(DSL/NDSL):	Not Listed
Japan:	Not Listed



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<b>Korea:</b>	Not Listed
<b>Australia:</b>	Not Listed
<b>China: IECSC</b>	Not Listed
<b>Taiwan</b>	Listed

#### US information

##### **CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):**

2-Bromo-5-methylpyridine is not listed

**SARA 302/304** : 2-Bromo-5-methylpyridine is not listed

**SARA 311/312** : See section 2 for more information

**California Prop. 65:** 2-Bromo-5-methylpyridine is not listed

**CAA (Clean Air Act):** 2-Bromo-5-methylpyridine is not listed

**CWA (Clean Water Act):** 2-Bromo-5-methylpyridine is not listed

#### EU Information

**Water hazard class (WGK):** WGK 3 (Severe hazards to water)

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006:** 2-Bromo-5-methylpyridine is not listed

#### 15.2. Chemical safety assessment

- For this product a chemical safety assessment was not carried out

#### **SECTION 16: OTHER INFORMATION**

##### **a) Compilation information of safety data sheet**

Date of compilation : December 21, 2019  
Chemical : 2-Bromo-5-methylpyridine  
CAS # : 3510-66-5  
File Name : 0378Gj Ghs04 Div.03 sds 2-Bromo-5-methylpyridine  
Revision Number : 04  
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##### **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 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.





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- 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.

#### d) List of hazard statements

Hazard statements	H302: Harmful if swallowed. H315: Causes skin irritation H319: Causes serious eye irritation. H335: May cause respiratory irritation
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#### 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)