

# Safety Data Sheet

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

Date of Compilation : September 20, 2013

Date of Issue : March 07, 2024

Due Date of Revision : February, 2027

File Name : 0734Gj Ghs06 Div.3 sds 2-Fluoro-6-(trifluoromethyl) pyridine

Version Number : 06

Supersedes date : January 12, 2024

Supersedes version : 0734Gj Ghs05 Div.3 sds 2-Fluoro-6-(trifluoromethyl) pyridine



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

#### 1.1. Product identifier

PRODUCT NAME : 2-Fluoro-6-(trifluoromethyl) pyridine

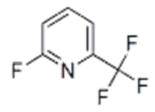
CAS RN : **94239-04-0** EC#. : **428-100-3** 

SYNONYMS : 2-Fluoro-6-(trifluoromethyl)py;2-Fluoro-6-trifluoromethylpyridine;

2-Trifluoromethyl-6-fluoropyridine;2-Fluoro-6-trifluoroMethylpyridine; Pyridine, 2-fluoro-6-(trifluoromethyl)-,

TECHNICAL NAME : 2-Fluoro-6-(trifluoromethyl) pyridine

MOLECULAR FORMULA STRUCTURAL FORMULA  $: C_6H_3F_4N$ 



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

#### 1.2.1. Relevant identified uses

2-Fluoro-6-(trifluoromethyl) pyridine is used as intermediate for agrochemicals & pharmaceuticals

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 <a href="mailto:support@jubl.com">support@jubl.com</a> - <a href="mailto:www.jubilantingrevia.com">www.jubilantingrevia.com</a>

## 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
Flammable Liquid: Category 3
Acute toxicity Oral: Category 4

Acute Toxicity Inhalation: Category 4 Aquatic Chronic: Category 3

### 2.2. Label Elements

According to regulation (EC) 1272/2008 Hazard Pictogram: GHS 02, GHS 07

Signal Word: Warning!





#### **HAZARD AND PRECAUTIONARY STATEMENTS:**



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#### **HAZARD STATEMENTS**

- H226: Flammable liquid and Vapour.
- H302: Harmful if swallowed.
- H332: Harmful if inhaled.
- H412: Harmful to aquatic life with long lasting effects.

## **PRECAUTIONARY STATEMENTS**

- P210: Keep away from heat/sparks/open flames/.../hot surfaces. ... No smoking.
- P233: Keep container tightly closed.
- P240: Ground/bond container and receiving equipment.
- P241: Use explosion-proof electrical/ventilating/lighting/.../ equipment.
- P242: Use only non-sparking tools.
- P243: Take precautionary measures against static discharge.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P270: Do not eat, drink or smoke when using this product.
- P264: Wash hands thoroughly after handling.
- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P273: Avoid release to the environment.
- P271: Use only outdoors or in a well-ventilated area.
- P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P370+P378: In case of fire: Use water for extinction.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330: Rinse mouth.
- 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
- P403+P235: Store in a well-ventilated place. Keep cool.
- P501: Dispose of contents/container to local/regional/national/international regulations.

#### 2.3 Other Hazards

Not available. For further details see section 12.

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

S. No.	Chemical	CAS#	EC#	Index No.	% Composition	GHS-US Classification
1	2-Fluoro-6- (trifluoromethyl) pyridine	94239-04-0	428-100-3	613-245-00-9	>99%(GC)	Flammable Liquid: Category 3 Acute toxicity Oral: Category 4 Acute Toxicity Inhalation: Category 4 Aquatic Chronic: Category 3

## **SECTION 4: FIRST AID MEASURES**

### Description of first aid measures

# Key symptoms

#### Acute effects:

2-Fluoro-6-(trifluoromethyl) pyridine is harmful if inhaled and if swallowed.

#### Chronic effects:

To the best of our knowledge, the chronic health effects of this product have not been thoroughly investigated

#### **FIRST AID**

- Consult a physician. Show this safety data sheet to the doctor in attendance.
- 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. Monitor for respiratory distress. Apply artificial respiration if not breathing. Do not use mouth-to-mouth methods if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- 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**

## 5.1. Extinguishing media



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Appropriate extinguishing media: Dry chemical powder, carbon dioxide, and alcohol resistant foam. Water may be effective. Water sprays 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 the substance or mixture

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and carbon dioxide and irritating and toxic fumes. WARNING: Highly toxic HF gas is produced during combustion.
- High vapor concentration may result in an explosion hazard.
- Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume.

#### 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 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.

#### 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 material for containment and cleaning up

- Clean up all tools and equipment.
- Decontaminate all equipment.

## 6.4. Reference to other sections

• For more information please refer to section 8 and 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.



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- 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. Conditions for safe storage, including any incompatibilities

- Store at ambient temperature in 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

#### 8.1. Control parameters

#### **Exposure Limits Values**

Chemical name	STEL (ppm)	NIOSH	OSHA	ACGIH
2-Fluoro-6-(trifluoromethyl) pyridine	Not available	Not available	Not available	Not available

#### **Exposure Limits (International):**

· Not available.

## Derived No-Effect-Levels (DNEL) / Predicted No-effect-concentration (PNEC)

DNEL and PNEC data not available

#### 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

#### 8.3. Personal Protection

- Eye/face protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- Body Protection: Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Respiratory protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### General Hygiene and general comments:

- Immediately change contaminated clothing.
- Apply skin protective barrier cream.
- 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	Colorless liquid.
2.	Molecular weight	165.09
3.	Odor	Not Available
4.	Odor Threshold	Not Available
5.	рН	Not available
6.	Melting point/Freezing point	-15.2 °C
7.	Boiling Point	143.0 ± 0.5 °C at 101.325 kPa as determined by Ebulliometry.
8.	Flash point	50 ± 2°C
9.	Evaporation rate (n-BuAc=1)	Not Available
10.	Flammability	Flammable liquid



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Sr. No.	Parameter	Typical value
11.	Upper/lower flammability or Explosive limits	Not Available
12.	Vapor pressure	560 ± 80 Pa at 25°C as determined by Ebulliometry
13.	Vapor density (air=1)	Not Available
14.	Relative density	1.40 at 20±0.5°C.
15.	Solubility	Slightly soluble in water (0.19% at 25±1°C) , Soluble in organic solvents like MDC, MeOH, Acetone etc.
16.	Partition coefficient : n-(Octonol / water)	1.83 at 25±1°C
17.	Auto-ignition temperature	>650°C
18.	Decomposition temperature	Not Available
19.	Viscosity	Not Applicable
20.	Explosive property	Not available

## SECTION 10: STABILITY AND REACTIVITY

- Reactivity: No data available
- Chemical Stability: Stable under specified condition of temperature and pressures
- Conditions to avoid: Keep away from heat, sparks, flame, high temperature, moist condition, mechanical shock and incompatible chemicals, dust generation. Ignition sources Avoid excessive heat and light.
- Incompatible chemicals: Strong oxidizing agents.
- Hazardous decomposition products: Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide & Hydrogen fluoride, irritating and toxic fumes WARNING: Highly toxic HF gas is produced during combustion
- · Possibility of hazardous reactions: Vapors may form explosive mixture with air. No decomposition if stored and applied as directed.

## SEION 11: TOXICOLOGICAL INFORMATION

## 11.1. Information on toxicological effects

### a) Acute toxicity

• 2-Fluoro-6-(trifluoromethyl) pyridine is harmful in inhalation and if swallowed. It causes skin irritation and serious eye irritation. It may cause respiratory irritation. It may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

RTECS#: Unlisted

**LD50:** LD50 rat (oral): 500 mg/kg LD50 rat (dermal): >2500 mg/kg

LD50 rat (Inhalation): LC50 male = 3075 ppm

Skin corrosion/irritation : non-irritant Eye damage/irritation : non-irritating Respiratory or skin sensitization : not sensitising Germ cell Mutagenicity : Negative : No data available Carcinogenicity Reproductive toxicity : No data available. STOT-single exposure : No data available. STOT- repeated exposure : No data available. Aspiration Hazards :No data available.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

### **Ecotoxicity:**

- Toxicity to fish LC50 Rainbow trout 82 mg/l 96 h
- Toxicity to daphnia and other aquatic invertebrates EC50 Daphnia magna (Water flea) -

48-hour EC50 = 82 mg/L

48-hour NOEC = 56 mg/L

• Toxicity to algae ErC50: green algae, Selenastrum capricornutum

72-hour ErC50 > 72 mg/L

72-hour EbC50 > 72 mg/L

- Toxicity to microorganisms: The 3-hour EC50 and EC0 were greater than 300.0 mg/L (nominal concentration).
- Harmful to aquatic life with long lasting effects.

## 12.2 Persistence and degradability



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2-Fluoro-6-(trifluoromethyl)pyridine (94239-04-0)			
Persistence and degradability	Not readily biodegradable.		
Biodegradation	Degradation after 28 days was < 11% at 11 mg/L and < 5.9% at 22 mg/L.		

### 12.3 Bio accumulative potential

2-Fluoro-6-(trifluoromethyl)pyridine (94239-04-0)		
Log Pow	1.83 at 25±1°C	
Bio concentration factor	< 0.06 (exposure period of 28 days in Zebra fish)	
Bio accumulative potential	Not detected	

### 12.4 Mobility in soil

2-Fluoro-6-(trifluoromethyl)pyridine (94239-04-0)		
Log Koc	1.7	
Soil Adsorp. Coeff.	147 L/Kg	
Henry's Law Constant	48.63 Pa m³/mol	

#### 12.5 Other adverse effects.

#### Environment Fate:

Based on environmental modeling, it is estimated to be persistent in the environment and is expected to be found predominantly in soil. It is also expected to be found in water but not in sediment. It has low potential to bio accumulate and does not biodegrade readily. 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 reinstates.

## Contaminated packaging

• Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

• This substance is considered to be Hazardous for transport by Air/Rail/Road and Sea and thus regulated by IATA/ICAO/ARD/RID/IMO/IMDG.

ADR/ RID	IMDG	IATA
14.1. UN number		
UN1993	UN1993	UN1993
FLANI/ABLE 13010 3	FLANTIVABLE LIQUID 3	FLAMILABLE LIGHAD 3
14.2. UN proper shipping name		
Flammable Liquid, N.O.S. (2-Fluoro-6- (trifluoromethyl) pyridine).	Flammable Liquid, N.O.S. (2-Fluoro-6- (trifluoromethyl) pyridine).	Flammable Liquid, N.O.S. (2-Fluoro-6- (trifluoromethyl) pyridine).
14.3. Transport hazard class(es)		
3	3	3
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No



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No supplementary information available

## SECTION 15: REGULATORY INFORMATION

## Classification as per CLP Regulation 1272/2008:

- Hazards Class and Category: Flammable Liquid: Category 3 ,Acute toxicity Oral: Category 4 ,Acute Toxicity Inhalation: Category 4 , Aquatic Chronic: Category 3
- Hazard Statements: H226,H302,H332,H412

Chemical Inventory Lists:	Status
TSCA:	Not Listed
EC List	428-100-3
EC Inventory	Not Listed
Canada(DSL/NDSL):	Not Listed
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
Vietnam National Chemical Inventory	Not Listed.
China: IECSC	Listed

#### **US** information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act): 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.

SARA 302/304 : 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.

SARA 311/312: See section 2 for more information

California Prop. 65: 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.
CAA (Clean Air Act): 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.
CWA (Clean Water Act): 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.

# **EU Information**

Water hazard class WGK 2 (self-assessment) hazardous for water

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: 2-Fluoro-6-(trifluoromethyl)pyridine is not listed.

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

Date of Compilation : September 20, 2013

Date of Issue : March 07, 2024

Due Date of Revision : February, 2027

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#### 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.
- 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.



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- SARA= Superfund Amendments and Reauthorization Act.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDSL= Domestic/Non-Domestic Substances List.
- BCF = Bio Concentration Factor.
- 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 European relative au transport international de merchandises.
- 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.

### d) List of hazard statements

Hazards Statements	H226: Flammable liquid and Vapour.	
	H302: Harmful if swallowed.	
	H332: Harmful if inhaled.	
	H412: Harmful to aquatic life with long lasting effects.	

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)