



# Safety Data Sheet

According to REG (EC) no.830/2015

**Product Identification:** Isonicotinic acid

0219Gj Ghs00 Div.3 sds Isonicotinic acid

Date of issue: April 04, 2024

Date of Compilation : December 23, 2011

Date of Revision : April 04, 2024

Revision due date : March 2027

Revision Number : 00

Version Number : 0219Gj Ghs00 Div.3 sds Isonicotinic acid

Supersedes date : February 19, 2021

Supersedes version : 0219Gj Clp07 Div.3 sds Isonicotinic acid

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## SECTION 1.: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY

**1.1 Product identification:** Isonicotinic Acid; CAS RN: 55-22-1; EC# : 200-228-2

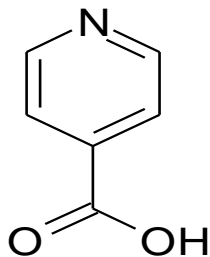
1.1.1. **Trade name:** Isonicotinic Acid

1.1.2. **Systematic Name:** 4-Pyridinecarboxylic acid (9CI+)

1.1.3. **Synonyms:** 4-Picolinic acid, gamma-Picolinic acid; Gamma-Pyridinecarboxylic acid

1.1.4. **Molecular Formula** C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub>

1.1.5. **Structural Formula:**



**1.2 Identified uses:** Isonicotinic Acid is used as an intermediate in pharmaceutical industry for making isoniazid.

**Uses advised against:** None

**1.3 Company / supplier: *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,  
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Email: [support@jubl.com](mailto:support@jubl.com)

Website: [www.jubilantingrevia.com](http://www.jubilantingrevia.com)

## 1.4 Emergency telephone:

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:

## HAZARDS IDENTIFICATION

### 2.1 Classification of the substance

#### 2.1.1. Classification according to regulation (EC) no. 1272/2008

Skin irritation: Category 2	H315
Serious eye damage/irritation: Category 2	H319
STOT Single Exposure: Category 3	H335

### 2.2 Label elements according to regulation (EC) 1272/2008

#### Pictograms:



GHS07

#### Signal word:

Warning!

## HAZARD AND PRECAUTIONARY STATEMENTS:

### HAZARD STATEMENTS

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

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## PRECAUTIONARY STATEMENTS

- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P264: Wash hands thoroughly after handling.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- 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.
- P337+P313: If eye irritation persists: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- 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.	EINECS No.	Purity	Classification acc. to reg.(EC) no. 1272/2008		
				Hazard Classes and categories	Pictograms Signal Words	Hazard Statements
Isonicotinic Acid	55-22-1	200-228-2	>99%	Serious eye damage/irritation: Category 2 Skin irritation: Category 2 STOT Single Exposure: Category 3	GHS 07 	H 319 H 315 H 335

## SECTION 4: FIRST AID MEASURES



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## 4.1. Description of first aid measures.

### Eyes:

- If eye exposure has occurred, eyes must be flushed with lukewarm water for at least 15 minutes.
- Wash exposed skin areas **THOROUGHLY** with soap and water.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- **RUSH** to a health care facility.

### Skin:

- Remove victims from exposure. Emergency personnel should avoid self- exposure to Isonicotinic acid.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Remove contaminated clothing as soon as possible.
- **RUSH** to a health care facility.

### Inhalation:

- Move victims to fresh air. Emergency personnel should avoid self-exposure to Isonicotinic acid.
- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.
- **RUSH** to a health care facility.

### Ingestion:

- Evaluate vital signs including pulse and respiratory rate, and note any trauma. If no pulse is detected, provide CPR. If not breathing, provide artificial respiration. If breathing is labored, administer oxygen or other respiratory support.
- Rinse mouth with large amounts of water. Instruct victims not to swallow this water.
- **DO NOT** induce vomiting or attempt to neutralize!
- Activated charcoal is of no value.
- Obtain authorization and/or further instructions from the local hospital for administration of an antidote or performance of other invasive procedures.

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

- **Acute effects:**

**Eyes:** Irritant to eyes. May lead to corneal opacification.

**Skin:** Causes skin irritation.

**Ingestion:** May be harmful if swallowed.

**Inhalation:** Acute inhalation exposure may result in respiratory irritant may have allergic and cumulative effects.

- *Behavioral somnolence, change in motor activity observed in animal studies.*

### **Chronic effects:**

- May affect liver function as target organ.

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

- Treat symptomatically

## SECTION 5 : FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media.

- *Appropriate extinguishing media:* Dry chemical powder, chemical foam, 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. . Do not permit water to get inside containers.

### 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.

- This material is harmful to health, but fire fighters may enter areas with extreme care. Full protective clothing including a self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed.
- 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.



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- 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.

#### **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.**



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- 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.
- 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 a dry and well ventilated place.
- Store away from incompatible materials.
- Keep only in original container.
- Keep securely closed when not in use.

### 7.3. Specific end use(s)

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

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control parameters :

#### 8.1.1 Exposure Limits Values:

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





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## 8.1.2 Exposure Limits (International):

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

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

- DNEL and PNEC data not available.

## 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.
- **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).

- **Hands :**

**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).



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## 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	Off-white to pale yellow powder
2.	Odor	Odorless
3.	Odor Threshold	Not available
4.	pH	3-4 (satd soln 6g/l)
5.	Melting point/Freezing point	310-315 °C
6.	Boiling Point	260°C @ 15mmHg
7.	Flash point	193°C
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability (Liquid)	Non Flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	9.87E-006 mm Hg
12.	Vapor density (air=1)	4.2
13.	Relative density	Not available
14.	Solubility	Soluble in water (5.2g/l) at 20°C, and 2 N NH <sub>4</sub> OH (5%). Insoluble in ether, benzene, and boiling

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			alcohol. DMSO (Slightly), Methanol (Slightly, Heated)
15.	Partition coefficient : n- (Octonol / water)		0.32
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

- No data available.

### 10.2. Chemical stability

- The product is stable under normal temperatures and conditions.

### 10.3. Possibility of hazardous reactions

- Hazardous Polymerization: Not expected.

### 10.4. Conditions to avoid

- Keep away from heat, sparks, flame, high temperature and incompatible chemicals.

### 10.5. Incompatible materials

- Strong acids and bases, strong oxidizing agents.

### 10.6. Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide, carbon dioxides, oxides of nitrogen.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### a) Acute toxicity

- Irritant to eyes. May lead to corneal opacification. (PHARM CHEM J (ENGL TRANSL KHIM-FARM ZH); 11 (4 PART 1). 1977 (1978) 481-483)

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- 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)

**b) Chronic effects:**

- May affect liver function as target organ. (RTECS).

**TOXICITY:**

**RTECS#:** NS1103000

ORL RAT LD50:	5000mg/kg
ORAL MOUSE LD <sub>50</sub> :	3123 mg/kg
INTRAVENOUS MOUSE LD <sub>50</sub>	5000 mg/kg

**c) Skin corrosion/irritation**

- Causes skin irritation.

**d) Serious eye damage/irritation**

- Causes serious eye irritation.

**e) Respiratory or skin sensitization**

- No data available.

**f) Germ cell Mutagenicity**

- No data available.

**g) 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).

**h) Reproductive toxicity**

- No data is available.

**i) STOT-single exposure**

- It may cause respiratory irritation.

**j) STOT- repeated exposure**

- No data available.

**k) Aspiration Hazards**

- No data available.



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## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### 12.1.1 Ecotoxicity:

- Fathead minnow LC<sub>50</sub> (96 hr)- 409.74 mg/L (Predicted Fathead minnow LC<sub>50</sub> (96 hr) from Consensus method)
- Daphnia magna LC<sub>50</sub> (48 hr)- 225.08 mg/L (Predicted Daphnia magna LC<sub>50</sub> (48 hr) from Consensus method)

### 12.2. Persistence and degradability

- It is Biodegradable in aerobic and anaerobic conditions.

### 12.3. Bioaccumulative potential

- BCF = 3.162
- Log Kow = 0.32 Low potential to bio accumulate.

Based on the log Pow value the possibility of bioaccumulation is low.

### 12.4. Mobility in soil

- Koc=3.23 (estimated). Moderate mobility in soil.
- Henry's Law constant: 1.42E-010 atm-m<sup>3</sup>/mole. Non- volatile from aqueous bodies.
- Log Pow =0.32 (estimated). No bioaccumulation is to be expected.

### 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.



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- 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 IMO/ IMDG/ IATA/ ICAO.

Mode of Transport	Agency
Land transport	ADR/RID
Maritime Transport	IMDG
Air Transport	IATA

### 14.1. UN number

- Not applicable.

### 14.2. UN proper shipping name

- Not applicable.

### 14.3. Transport hazard class(es)

- Not applicable.

### 14.4. Packing group

- Not applicable.

### 4.5. Environmental hazards

- It is expected that this chemical is not a marine pollutant and is not Harmful to the Aquatic environment.

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.

- European/International Regulations.
- European Labelling in Accordance with EC Directives.

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

- **Hazards Class and Category:** Serious eye damage Cat.2; Skin irritation Cat.2; STOT SE Cat.3
- **Hazard Statements:** H319; H315; H335

### 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.



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- **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

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

**Chemical:** Isonicotinic Acid

**CAS #:** 55-22-1

**File Name:** 0219Gj Ghs00 Div.3 sds Isonicotinic acid

**Revision Number:** 00

**Date of Issue of SDS:** April 04, 2024

**Revision Due Date:** March, 2027

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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, Authorisation and Restriction of Chemicals.
- CLP = Classification, Labelling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- 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





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- DIR 67/548/EWG, last modification by DIR 2009/2/EC
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009
- (Potential Carcinogenic Hazards From Drugs, UICC Monograph Series, Vol. 7, pages 180- 187, 1967).
- (PHARM CHEM J (ENGL TRANSL KHIM-FARM ZH); 11 (4 PART 1). 1977 (1978) 481-483).
- (KHIM-FARM ZH; 11 (4). 1977 45-48)

## Internet

- RTECS

### (d) List of Hazard statements.

<b>Hazards Statements</b>	<ul style="list-style-type: none"><li>• H319: Causes serious eye irritation.</li><li>• H315: Causes skin irritation.</li><li>• H335: May cause respiratory irritation.</li></ul>
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### 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)