



Azacyclonol

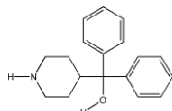
Safety Data Sheet

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

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification

Product name : Azacyclonol
CAS RN : 115-46-8
EC# : 204-092-5
SYSTEMATIC NAME : 4-Piperidinemethanol, alpha,alpha-diphenyl-
MOLECULAR FORMULA : C₁₈H₂₁NO
STRUCTURAL FORMULA



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

- Azacyclonol is used for research and development purposes only. It is probably used as an intermediate in the pharmaceutical industry.

1.3. Details of the supplier of the safety data sheet

Jubilant Life Sciences Limited

FACTORY & REGISTERED OFFICE: Jubilant Life Sciences Ltd., Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India
T +91-5924-252353 to 252360 Contact Department-Safety: Ext. 7424 F +91-5924-252352

HEAD OFFICE: Jubilant Life Sciences Ltd., 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.jubl.com

1.4. Emergency telephone number

Emergency number : +91-9997022412; +91-9359674864

SECTION 2: HAZARD(S) IDENTIFICATION

2.1. Classification of the substance or mixture

GHS-US classification

Eye damage/eye irritant: Category 2B	H320	Causes eye irritation
Skin corrosion/irritation: Category 2	H315	Causes skin irritation
Acute Oral Toxicity: Category 4	H302	Harmful if swallowed

2.2. Label Elements

GHS-US labeling

Hazard Pictogram (GHS-US)



Hazard Pictogram: GHS 07

Signal Word: Warning!

HAZARD AND PRECAUTIONARY STATEMENTS:

HAZARD STATEMENTS

- H320: Causes eye irritation.
- H315: Causes skin irritation.
- H302: Harmful if swallowed.

PRECAUTIONARY STATEMENTS

- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P264: Wash hands, eyes and face thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P280: Wear protective gloves/clothing and eye/face protection.
- P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
- P314: Get medical advice/attention if you feel unwell.
- P332 + P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P305 + P351 + P338: IF IN EYES, Rinse cautiously 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.
- P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.



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SECTION 3 : Composition/information on ingredients

Name	Product identifier	%	GHS-US classification
Azacyclonol	(CAS No) 115-46-8	>99 %	Eye damage/eye irritant: Category 2B H320 Skin corrosion/irritation: Category 2 H315 Acute Oral Toxicity: Category 4 H302

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures.

Acute effects:

- It is harmful if swallowed and irritating to skin and eyes and respiratory system. It is irritating to tissues of the mucous membranes and upper respiratory tract. It may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Chronic effects:

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

FIRST AID:

- Eyes:** If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do 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

Extinguishing media:

- Appropriate extinguishing media:* Dry chemical powder, carbon dioxide, and alcohol resistant foam. 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 non-flammable mixtures fog or alcohol-resistant foam by directing streams to the periphery of the fires to prevent spread.

Special Protective Equipment and Precautions for Fire Fighter:

- 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) and full protective clothing. The chemical is harmful in contact with skin.
- Report any run-off of fire waters contaminated with this chemical as per local and federal procedures applicable.

Unusual fire and explosion hazard:

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and cyanide.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Major Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

Minor Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- 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.



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- 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 AND STORAGE

7.1. Precautions for safe handling

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.

Storage

- Store in a cool, dry and ventilated place.
- Store away from incompatible materials.
- Keep securely closed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits

Chemical name	STEL(ppm)	NIOSH	ACGIH	OSHA
Azacyclonol	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. 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 Industrial hygiene:

- 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.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

- Information on basic physical and chemical properties.

Sr.No.	Parameter	Typical value
1.	Appearance	White to off-white crystalline powder.
2.	Odor	Not available
3.	Odor Threshold	Not available
4.	pH	Not applicable
5.	Melting point/Freezing point	160 - 163 ^o C



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6.	Boiling Point	399 ^o C
7.	Flash point	Not available
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Non Flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	1.1 x 10 ⁻⁸ mm Hg at 25 ^o C (estimated)
12.	Vapor density (air=1)	Not available
13.	Relative density	Not available
14.	Solubility	Insoluble in water
15.	Partition coefficient : n-(Octonol / water)	3.4
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

- **Stability:** Stable under normal temperature and pressures.
- **Conditions to avoid:** Keep away from High temperature, mechanical shock, incompatible materials, ignition sources, and moisture. Store in tightly closed containers in a cool, well ventilated area away from excess heat. Avoid dust generation.
- **Incompatible chemicals:** Oxidizing agents and strong acids.
- **Hazardous decomposition:** Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide & nitrogen, Hydrogen chloride, hydrogen cyanide and irritating and toxic fumes.
- **Hazardous Polymerization:** Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- **Acute toxicity**
- It is harmful if swallowed and irritating to skin and eyes and respiratory system. It is irritating to tissues of the mucous membranes and upper respiratory tract. It may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

RTECS#: TN0470000

Acute Oral, mouse: LD50 = 650 mg/kg.

- a) **Skin irritation/ corrosion**
 - Causes skin irritation.
- b) **Serious Eye damage/ irritation**
 - Causes eye irritation.
- c) **Respiratory or skin sensitization**
 - Causes irritation to respiratory system.
- d) **Germ cell Mutagenicity**
 - No data is available.
- e) **Carcinogenicity**
 - Not listed by NTP, IARC and OSHA.
 - Not present on the EU CMR list.
 - According to information presently available, Azacyclonolis not found to be carcinogenic.
- f) **Reproductive toxicity**
 - According to the information presently available Azacyclonol has not been tested for its ability to affect reproduction.
- g) **STOT-single exposure**
 - No data is available.
- h) **STOT-repeated exposure**



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- No data available.
- i) **Aspiration hazard.**
- No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity:

- Fathead minnow LC₅₀: < 100 mg/l (estimated).
- Fish ChV (mg/l) : Not available.
- Based on the estimated value it is expected to be harmful to aquatic organisms.

Persistence and degradability

- Azacyclonol is estimated to be persistent in the environment. It is not expected to be readily biodegradable in aerobic and anaerobic conditions.

Bioaccumulative potential(Predicted)

- BCF = 90
- Log Kow = 3.4

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.

Mobility in soil

- Log Koc= 4.075 (estimated). Strong sorption.
- Henry's Law Constant = 1.1×10^{-12} atm/m³ mole at 25 degrees. It is non-volatile from aqueous bodies.
- Log Kow = 3.4 (estimated). Low potential to bioaccumulate.

Other adverse effects.

Environment Fate:

- Based on environmental modeling, this material is not expected to be persistent in the environment, is not expected to bioaccumulate, and is not expected to be chronically toxic to fish. It is expected to biodegrade very slowly. 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.
- 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

Department of Transportation (DOT)

- 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

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

SECTION 15: REGULATORY INFORMATION

European Union Information

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

- **Hazards Class and Category:** Acute Tox.Oral Cat.4, Skin Irrit.cat.2, Eye irrit.cat.2
- **Hazard Statements:** H302; H315; H319

Biocidal Products Directive (Directive 98/8/EC) Information:

- There is no information in ESIS for this substance with respect to the BPD.

Classification and Labelling Information:

- This substance is not classified in the Annex I of Directive 67/548/EEC as such, but it may be included in one of the group entries.
- An example of a group entry is 033-002-00-5 'arsenic compounds with the exception of those specified elsewhere in this Annex'. Substances not listed either individually or in group entries must be self classified.

Export and Import of Dangerous Chemicals (Regulation (EC) No 689/2008) Information:

- This substance is not listed in the Annex I of Regulation (EC) No 689/2008.

IUCLID & OECD Chemical Data Sheets and Export Files Information:

- Not available for this substance.

European Priority Lists and Risk Assessment (Council Regulation (EEC) No 793/93) Information:

- This substance is not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93 on the evaluation and control of the risks of existing substances.).

US information

- CAS# 115-46-8 is not listed on the TSCA inventory.



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CANADA

- None of the chemicals in this product are listed on the DSL/NDSL list.
- CAS# 115-46-8 is not listed on Canada's Ingredient Disclosure List.

SECTION 16: OTHER INFORMATION

a) Compilation information of safety data sheet

Chemical : Azacyclonol.
CAS # :115-46-8
File Name : 0174Gj Ghs11 Div.3 sdsAzacyclonol
Revision Number : 11
Date of Revision : December 10, 2015
Revision Due Date : August, 2017
Supersedes date : September16, 2015

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.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act.
- SARA= Superfund Amendments and Reauthorization Act.
- 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.

SDS US (GHS HazCom2012)

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 sds