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File Name: 0174Gj Ghs18 Div.3 sds Azacyclonol

Revision Number: 18

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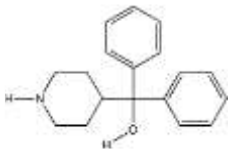
SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : Azacyclonol;
CAS RN : 115-46-8;
EC : 204-092-5
Trade name : Azacyclonol
Systematic Name : 4-Piperidinemethanol, alpha,alpha-diphenyl-
Synonyms : α,α-Diphenyl-4-piperidinemethanol.
Molecular Formula : $C_{18}H_{21}NO$
Structural Formula :



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

Azacyclonol is used as an intermediate in the pharmaceutical industry.

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 - 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: Hazards identification

2.1. Classification of the substance or mixture

GHS US Classification

Eye damage/eye irritant: Category 2	H319
Skin corrosion/irritation: Category 2	H315
Acute Oral Toxicity: Category 4	H302

2.2. Label elements

GHS US Classification
Pictograms:

GHS 07-Exclamation mark

Signal word: Warning!

Hazard and precautionary statements:
Hazard Statements

- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H302: Harmful if swallowed.

PRECAUTIONARY STATEMENTS

Prevention

- 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 rising.
- 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.

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

3.1 Substances

Name	Product identifier	EC Number	% Purity	GHS US Classification
Azacyclonol	(CAS No) 115-46-8	204-092-5	>99 %	Eye damage/eye irritant: Category 2 Skin corrosion/irritation: Category 2 Acute Oral Toxicity: Category 4

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures.

4.1.1 Route of exposure: Inhalation, skin, eye and ingestion.

4.1.2 Advice

- Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

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

- ***Acute effects:***

  Eyes **:** Irritating to eyes.
  Skin **:** Irritating to skin.
  Ingestion: Harmful if swallowed.
  Inhalation: Irritating to tissues of the mucous membranes and upper respiratory tract.

- ***Chronic effects:***

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

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

- **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.

- **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.

- *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.

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 dioxides.
- 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.

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.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Handling is performed in a well ventilated place.
- Prevent dispersion of dust.
- Use a local exhaust if dust or aerosol will be generated.
- Avoid contact with skin, eyes and clothing

7.2. Conditions for safe storage, including any incompatibilities

- Store at ambient temperature at dry and ventilated place.
- Store away from incompatible materials.
- Keep securely closed when not in use.

7.3. Specific end use(s)

- Azacyclonol is used as an intermediate in the pharmaceutical industry.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure Limits Values:

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
Azacyclonol	None available	None available	None available	None available

8.1.2 Exposure Limits (International):

- Not available.

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.
- **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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. 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 - 163^0 C
6.	Boiling Point	445^0 C at 760 mmHg
7.	Flash point	142.0±18.0 °C
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability	Non Flammable
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	8.38E-9 mmHg at 25 °C
12.	Vapor density (air=1)	Not available
13.	Relative density	1.103g/cm3
14.	Solubility	Slightly soluble (0.1-100 mg/L)
15.	Partition coefficient : n-(Octonol / water)	3.45
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 & REACTIVITY

10.1. Reactivity

- Azacyclonol is white to off white crystalline powder. It is slightly soluble in water.

10.2. Chemical stability

- Stable under normal 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, and moisture.Store in tightly closed containers in a cool, well ventilated area away from excess heat. Avoid dust generation.

10.5. Incompatible materials

- Strong acids/alkalis, strong oxidizing/reducing agents.

10.6. Hazardous decomposition products

- Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide & nitrogen, Hydrogen chloride and irritating and toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- It causes irritation to skin, eyes and respiratory system. It is harmful if swallowed. It may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

- **RTECS#**: TN0470000
- **Acute Oral, mouse: LD50** = 650 mg/kg**.**
- **Acute-intraperitoneal,mouse:LD50**=220 mg/kg
- **Acute-subcutaneous,mouse:LD50**=350 mg/kg
- **Acute intravenous,mouse:LD50=**177 mg/kg

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes eye irritation.

d) Respiratory or skin sensitization

- No data is available

e) Germ cell Mutagenicity

- Not mutagenic

f) Carcinogenicity

- Not listed by NTP, IARC and OSHA.
- Not present on the EU CMR list.
- According to information presently available. Azacyclonol is not found to be carcinogenic.

g) Reproductive toxicity

- According to the information presently available Azacyclonol has not been tested for its ability to affect reproduction.

h) STOT-single exposure

- No data is available.

i) *STOT- repeated exposure*

- No data available.

j) Aspiration Hazards

- No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1 Ecotoxicity:

- Short-term toxicity to fish

LC50 for freshwater fish: 148 mg/L

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

- BCF = 87.18L/Kg (EPI Suite)
- Log Kow = 3.45

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 (Estimated)

- Log Koc= 3.97 (estimated). Strong sorption
- Henry's Law Constant = 5.43E-12 atm m^3/mol at 25 degrees (Estimated). It is non-volatile from aqueous bodies.
- Log Kow = 3.45 (estimated). Low potential to bioaccumulate.

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 environmental modeling, this material 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

- It is considered to be Non Hazardous for Transport by Road/Rail/Sea/Air and not regulated by ADR/RID/IMDG/IATA.

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.

14.5. 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.

Classification (as per Regulation (EC) No 1272/2008):
- **Hazards Class and Category**: Acute Tox.Oral Cat.02, Skin Irrit.cat.2, Eye irrit.cat.2
- **Hazard Statements:** H302; H315; H319

Chemical Inventory Lists:	Status
TSCA:	Not Listed
EINECS:	Listed
Canada(DSL/NDSL):	Not Listed
Japan:	Not Listed
Korea:	Not Listed
Australia:	Not Listed
China: IECSC	Not Listed
Taiwan	Listed

US information
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):
Azacyclonol is not listed
SARA 302/304 : Azacyclonol is not listed
SARA 311/312 : See section 2 for more information
California Prop. 65: Azacyclonol is not listed
CAA (Clean Air Act): Azacyclonol is not listed
CWA (Clean Water Act): Azacyclonol is not listed

EU Information
Water hazard class (WGK): WGK 3 (Severely hazardous to water)
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: Azacyclonol is not listed

SECTION 16: OTHER INFORMATION

Compilation information of safety data sheet

Date of compilation **:** November 18, 2011
Chemical : Azacyclonol
CAS # :115-46-8
File Name : 0174Gj Ghs18 Div.3 sds Azacyclonol
Revision Number : 18
Date of Issue of SDS : January 31, 2024
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(a) 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
- UEL= Upper Explosive Limit
- LEL= Lower Explosive Limit
- RTECS= Registry of Toxic Effects of Chemical Substances
- NTP=National Toxicology Programm
- 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
- BCF = Bio Concentration Factor
- DNEL = Derived No Effect Level
- PNEC = Predicted No Effect Concentration
- TLV = Threshhold 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

(b) 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
- Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 2020/878
- Internet
- RTECS

(c) List of Hazard statements and/or precautionary statements.

Hazards Statements	• H315: Causes skin irritation. • H319: Causes serious eye irritation. • H302: Harmful if swallowed.
Precautionary Statements	• P260**;** P264; P270; P280;P302 + P352**;** P314; P332 + P313; P362; P305 + P351 + P338; P337 + P313; P301+330+331;P405; P501

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.