1 Identification

- Product identifier
- Product name: Sulfachloropyridazine
- Part number: DRE-C16990100
- CAS Number: 80-32-0
- EC number: 201-269-9
- Application of the substance / the mixture: Reference material for laboratory use only
- Manufacturer/Supplier:
  VHG Labs, Inc
  LGC Standards
  276 Abby Road
  Manchester, NH 03103
  UNITED STATES OF AMERICA
  Tel: +1 (603) 622-7660
  Fax: +1 (603) 622-5180
  eMail: custsvc@vhglabs.com
  Web: www.vhglabs.com
- Information department:
  Product safety department
  eMail: sds-request@lgcgroup.com
- Emergency telephone number:
  INFOTRAC 24-hour Emergency telephone number:
  800-535-5053 (US & Canada);
  352-323-3500 (International)

2 Hazard(s) identification

- Classification of the substance or mixture

  GHS08 Health hazard
  Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

  GHS09 Environment
  Aquatic Acute 1 H400 Very toxic to aquatic life.
  Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

  GHS07
  Acute Tox. 4 H302 Harmful if swallowed.
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2A H319 Causes serious eye irritation.
  Skin Sens. 1 H317 May cause an allergic skin reaction.
  STOT SE 3 H335 May cause respiratory irritation.

(Contd. on page 2)
Safety Data Sheet
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Product name: Sulfachloropyridazine

- Label elements
  - GHS label elements
    The substance is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    ![GHS07](image1) ![GHS08](image2) ![GHS09](image3)

- Signal word Danger
- Hazard statements
  H302 Harmful if swallowed.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  H317 May cause an allergic skin reaction.
  H335 May cause respiratory irritation.
  H400 Very toxic to aquatic life.
  H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements
  P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P284 [In case of inadequate ventilation] wear respiratory 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.
  P321 Specific treatment (see on this label).
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- Classification system:
  - NFPA ratings (scale 0 - 4)
    ![Health 2](image4) ![Fire 0](image5) ![Reactivity 0](image6)
    Health = 2
    Fire = 0
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    ![Health 2](image7) ![Fire 0](image8) ![Reactivity 0](image9)
    Health = 2
    Fire = 0
    Reactivity = 0
- Other hazards
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

(Contd. of page 3)
Product name: Sulfachloropyridazine

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  80-32-0 Sulfachloropyridazine
- Identification number(s)
  - EC number: 201-269-9
  - RTECS: DA9466926

4 First-aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - After inhalation:
    Supply fresh air and to be sure call for a doctor.
    In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact:
    Immediately wash with water and soap and rinse thoroughly.
    If skin irritation continues, consult a doctor.
  - After eye contact:
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing:
    Rinse mouth. Do not induce vomiting.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed No further relevant information available.
    - Indication of any immediate medical attention and special treatment needed
      No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- Special hazards arising from the substance or mixture
  - Formation of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
  - Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Avoid formation of dust.
- Environmental precautions:
  - Inform respective authorities in case of seepage into water course or sewage system.
  - Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
Product name: Sulfachloropyridazine

- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
- Protective Action Criteria for Chemicals
  - PAC-1: Substance is not listed.
  - PAC-2: Substance is not listed.
  - PAC-3: Substance is not listed.

7 Handling and storage

- Handling:
- Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Store in cool, dry place in tightly closed receptacles.
- Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and receptacles:
    Store in a cool location.
    Please refer to the manufacturers certificate for specific storage and transport temperature conditions.
    Store only in the original receptacle.
    Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Keep receptacle tightly sealed.
- Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing.
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes and skin.
- Breathing equipment:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374

Material of gloves: Butyl rubber, BR
Penetration time of glove material:
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:
Tightly sealed goggles

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Solid
Color: White
Odor: Odorless
Odor threshold: Not determined.

pH-value: Not applicable.
Change in condition
Melting point/Melting range: 190-191 °C (374-376 °F)
Boiling point/Boiling range: Not determined.

Flash point: Not applicable.
Flammability (solid, gaseous): Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Auto igniting: Not determined
Danger of explosion: Not determined.
Safety Data Sheet
acc. to OSHA HCS

Product name: Sulfachloropyridazine

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:** Not applicable.

- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapor density** Not applicable.
- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with Water at 20 °C (68 °F):** 7 g/l

- **Partition coefficient (n-octanol/water):** 0.31 logP

- **Viscosity:**
  - Dynamic: Not applicable.
  - Kinematic: Not applicable.

- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** Stable under normal conditions.
- **Chemical stability** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** Formation of toxic gases is possible during heating or in case of fire.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid**
  - Heat.
  - Light.
- **Incompatible materials:** Strong oxidizing agents.
- **Hazardous decomposition products:**
  - Formation of toxic gases is possible during heating or in case of fire.
  - Carbon monoxide and carbon dioxide
  - Nitrogen oxides (NOx)
  - Hydrogen chloride (HCl)
  - Sulfur oxides (SOx)

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
  - Primary irritant effect:
    - **on the skin:** Irritant to skin and mucous membranes.
    - **on the eye:** Irritating effect.

(Contd. on page 7)
Product name: Sulfachloropyridazine

- Sensitization:
  - Sensitization possible through skin contact.
  - Sensitization possible through inhalation.
- Additional toxicological information:
  - Carcinogenic categories
    - IARC (International Agency for Research on Cancer) Substance is not listed.
    - NTP (National Toxicology Program) Substance is not listed.
    - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity:
    - EC50/48 h: 0.375 mg/l (daphnia)
    - LC50/96 h: 335.7 mg/l (fish)
  - Persistence and degradability: No further relevant information available.
  - Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Ecotoxicological effects:
    - Remark: Very toxic for fish
  - Additional ecological information:
    - General notes:
      - Water hazard class 3 (Self-assessment): extremely hazardous for water
      - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
      - Danger to drinking water if even extremely small quantities leak into the ground.
      - Very toxic for aquatic organisms
    - Results of PBT and vPvB assessment
      - PBT: Not applicable.
      - vPvB: Not applicable.
      - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation:
    - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packagings:
  - Recommendation: Dispose in accordance with national regulations.
### 14 Transport information

<table>
<thead>
<tr>
<th>· UN-Number</th>
<th>UN3077</th>
</tr>
</thead>
<tbody>
<tr>
<td>· DOT, ADR, IMDG, IATA</td>
<td>Environmentally hazardous substances, solid, n.o.s. (Sulfachloropyridazine)</td>
</tr>
<tr>
<td>· DOT</td>
<td>Environmentally hazardous substances, solid, n.o.s. (Sulfachloropyridazine)</td>
</tr>
<tr>
<td>· ADR</td>
<td>3077 Environmentally hazardous substances, solid, n.o.s. (Sulfachloropyridazine)</td>
</tr>
<tr>
<td>· IMDG</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sulfachloropyridazine), MARINE POLLUTANT</td>
</tr>
<tr>
<td>· IATA</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Sulfachloropyridazine)</td>
</tr>
</tbody>
</table>

- **Transport hazard class(es)**
  - DOT, ADR, IMDG, IATA

- **Class**
  - DOT, ADR, IMDG, IATA 9 Miscellaneous dangerous substances and articles

- **Label**
  - DOT, ADR, IMDG, IATA 9

- **Packing group**
  - DOT, ADR, IMDG, IATA III

- **Environmental hazards:**
  - Marine pollutant:
    - Yes (DOT)
      - Symbol (fish and tree)

- **Special marking (ADR):**
  - Symbol (fish and tree)

- **Special marking (IATA):**
  - Symbol (fish and tree)

- **Special precautions for user**
  - Danger code (Kemler): Warning: Miscellaneous dangerous substances and articles 90
  - EMS Number: F-A,S-F
  - Stowage Category: A
  - Stowage Code: SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **Transport/Additional information:**
  - DOT
    - Remarks: Special marking with the symbol (fish and tree).
  - UN "Model Regulation":
    - UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (SULFACHLOROPYRIDAZINE), 9, III
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Product name: Sulfachloropyridazine

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara
- Section 355 (extremely hazardous substances): Substance is not listed.
- Section 313 (Specific toxic chemical listings): Substance is not listed.
- TSCA (Toxic Substances Control Act): Substance is not listed.
- Proposition 65
  - Chemicals known to cause cancer: Substance is not listed.
  - Chemicals known to cause reproductive toxicity for females: Substance is not listed.
  - Chemicals known to cause reproductive toxicity for males: Substance is not listed.
  - Chemicals known to cause developmental toxicity: Substance is not listed.
- Carcinogenic categories
  - EPA (Environmental Protection Agency) Substance is not listed.
  - TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
- NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.

- GHS label elements
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
- Hazard pictograms
  - Signal word Danger
- Hazard statements
  H302 Harmful if swallowed.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  H317 May cause an allergic skin reaction.
  H335 May cause respiratory irritation.
  H400 Very toxic to aquatic life.
  H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements
  P261 Avoid breathing dust/fume/gas/mist/vapors/spray
  P284 [In case of inadequate ventilation] wear respiratory 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.
  P321 Specific treatment (see on this label).
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Product name: Sulfachloropyridazine

16 Other information

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

Date of preparation / last revision 07/06/2017 / -

Abbreviations and acronyms:
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMSC: Hazardous Materials Identification System (USA)
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- STOT SE 3: Specific target organ toxicities (single exposure) – Category 3
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Sources

Data compared to the previous version altered: All sections have been updated.