1 Identification

- **Product identifier**
- **Trade name:** cis-chlordane
- **Part number:** N-2194
- **CAS Number:** 5103-71-9
- **EC number:** 225-825-5

**Application of the substance / the mixture** Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** ULTRA Scientific, Inc.
    250 Smith Street
    North Kingstown, RI  02852
    USA
  - **Information department:**
    Telephone: (401) 294-9400
    Fax: (401) 295-2300
    E-mail: regulatory@ultrasci.com
  - **Emergency telephone number:**
    US: (800) 424-9300
    Outside US: (703) 527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**

  - **GHS06 Skull and crossbones**
    Acute Tox. 3  H311  Toxic in contact with skin.

  - **GHS07**
    Acute Tox. 4  H302  Harmful if swallowed.
    Acute Tox. 4  H332  Harmful if inhaled.
    Skin Irrit. 2  H315  Causes skin irritation.
    Eye Irrit. 2A  H319  Causes serious eye irritation.
    STOT SE 3  H335  May cause respiratory irritation.

- **Label elements**
- **GHS label elements**
  The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**

  - **GHS06**
  - **GHS07**

- **Signal word** Danger

(Contd. on page 2)
Trade name: cis-chlordane

- **Hazard-determining components of labeling:**
  cis-chlordane

- **Hazard statements**
  Harmful if swallowed or if inhaled.
  Toxic in contact with skin.
  Causes skin irritation.
  Causes serious eye irritation.
  May cause respiratory irritation.

- **Precautionary statements**
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  If swallowed: Call a poison center/doctor if you feel unwell.
  If on skin: Wash with plenty of water.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
  Continue rinsing.
  Specific treatment (see on this label).
  Rinse mouth.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Take off immediately all contaminated clothing and wash it before reuse.
  Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    ![NFPA ratings](image)
    Health = 3
    Fire = 0
    Reactivity = 0
  - **HMIS-ratings (scale 0 - 4)**
    ![HMIS-ratings](image)
    Health = 2
    Fire = 0
    Reactivity = 0

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT**: Not applicable.
    - **vPvB**: Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
  5103-71-9 cis-chlordane
4 First-aid measures

- **Description of first aid measures**

  - **General information:**
    
    Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. In case of irregular breathing or respiratory arrest provide artificial respiration.

  - **After inhalation:**
    
    Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

  - **After skin contact:**
    
    Immediately wash with water and soap and rinse thoroughly.

  - **After eye contact:**
    
    Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

  - **After swallowing:**
    
    Immediately call a doctor.

- **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**

  - No further relevant information available.

- **Advice for firefighters**

  - **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

  - Not required.

- **Environmental precautions**

  - 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.

- **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.
Trade name: cis-chlordane

7 Handling and storage

- Handling:
- Precautions for safe handling
  Thorough dedusting.
  Ensure good ventilation/exhaustion at the workplace.
- 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: No special requirements.
- Information about storage in one common storage facility: Not required.
- 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:
  The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
  The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
  At this time, the remaining constituent has no known exposure limits.
  At this time, the other constituents have no known exposure limits.
- 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.
  Store protective clothing separately.
  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:

  Protective gloves

- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
Trade name: cis-chlordane

- **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:** Not determined.
  
  - **Odor:** Characteristic
  
  - **Odor threshold:** Not determined.

  - **pH-value:** Not applicable.

- **Change in condition**
  
  - **Melting point/Melting range:** Undetermined.
  
  - **Boiling point/Boiling range:** Undetermined.

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Product is not flammable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **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:** Insoluble.

- **Partition coefficient (n-octanol/water):** Not determined.

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

  - **VOC content:**
    - 0.00 %
    - 0.0 g/l / 0.00 lb/gl

(Contd. on page 6)
Trade name: cis-chlordane

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability:
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  - Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:
  - LD/LC50 values that are relevant for classification:
    - ATE (Acute Toxicity Estimate)
      | Route   | LD50       |
      |----------|------------|
      | Oral     | 500 mg/kg (rat) |
      | Dermal   | 300 mg/kg |
      | Inhalative | LC50/4 h 1.5 mg/L |

5103-71-9 cis-chlordane

- Primary irritant effect:
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Irritating effect.
  - Sensitization: No sensitizing effects known.
- 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: No further relevant information available.
  - 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.
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: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, IMDG, IATA: UN3077

- UN proper shipping name
  - DOT: Environmentally hazardous substances, solid, n.o.s. (cis-chlordane)
  - IMDG, IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (cis-chlordane)

- Transport hazard class(es)
  - DOT, IMDG:
    - Class: 9 Miscellaneous dangerous substances and articles
    - Label: 9

- IATA:
  - Class: 9 Miscellaneous dangerous substances and articles
  - Label: 9

- Packing group
  - DOT, IMDG, IATA: III

- Environmental hazards:
  - Product contains environmentally hazardous substances: cis-chlordane
Safety Data Sheet
acc. to OSHA HCS

Trade name: cis-chlordane

- Special marking (IATA): Symbol (fish and tree)
- Special precautions for user Warning: Miscellaneous dangerous substances and articles
- Danger code (Kemler): 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
  - Quantity limitations On passenger aircraft/rail: No limit
  - On cargo aircraft only: No limit

- IMDG
  - Limited quantities (LQ) 5 kg
  - Code: E1
  - Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 g
    Maximum net quantity per outer packaging: 1000 g

- UN "Model Regulation":
  - UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (CIS-CHLORDANE), 9, III

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.
  - TSCA new (21st Century Act) (Substances 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.

(Contd. on page 9)
Trade name: cis-chlordane

- 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
  ![GHS06](image)
  ![GHS07](image)

- Signal word
  Danger

- Hazard-determining components of labeling:
  cis-chlordane

- Hazard statements
  Harmful if swallowed or if inhaled.
  Toxic in contact with skin.
  Causes skin irritation.
  Causes serious eye irritation.
  May cause respiratory irritation.

- Precautionary statements
  Avoid breathing dust/fume/gas/mist/vapors/spray
  Wash thoroughly after handling.
  Do not eat, drink or smoke when using this product.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.
  If swallowed: Call a poison center/doctor if you feel unwell.
  If on skin: Wash with plenty of water.
  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  Specific treatment (see on this label).
  Rinse mouth.
  If skin irritation occurs: Get medical advice/attention.
  If eye irritation persists: Get medical advice/attention.
  Take off immediately all contaminated clothing and wash it before reuse.
  Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of contents/container in accordance with local/regional/national/international regulations.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information
This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
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)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
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
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3