Safety Data Sheet
acc. to OSHA HCS

1: Identification

1.1 Product identifier

- Trade name: Chloral Hydrate
- Product Code: 100294
- CAS Number: 302-17-0
- EC number: 206-117-5
- Index number: 605-014-00-6

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

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Fagron Inc
2400 Pilot Knob Road
St. Paul, MN 55120
www.fagron.us
QA@fagron.us

Information department:
Tel.: 800-423-6967
Fax: 800-339-1596

1.4 Emergency telephone number:
Emergency Telephone:
US: 1-800-535-5053
International: 1-352-323-3500

2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

- GHS06 Skull and crossbones
  Acute Tox. 3 H301 Toxic if swallowed.

- GHS08 Health hazard
  Carc. 1B H350 May cause cancer.

- GHS07
  Skin Irrit. 2 H315 Causes skin irritation.
  Eye Irrit. 2 H319 Causes serious eye irritation.
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Trade name: Chloral Hydrate
Chlorali hydras

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2.2 Label elements
- Labelling according to Regulation (EC) No 1272/2008: The substance is classified and labeled according to the CLP regulation.
- Hazard pictograms: GHS06, GHS07, GHS08
- Signal word: Danger
- Hazard statements:
  - H301: Toxic if swallowed.
  - H315: Causes skin irritation.
  - H319: Causes serious eye irritation.
  - H350: May cause cancer.
- Precautionary statements:
  - P280: Wear protective gloves.
  - P280: Wear eye protection / face protection.
  - P301+P310: If swallowed: Immediately call a poison center/doctor.
  - P321: Specific treatment (see on this label).
  - P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P405: Store locked up.
- Classification system:
  - NFPA ratings (scale 0 - 4)
  - HMIS-ratings (scale 0 - 4)
- Other hazards:
  - Results of PBT and vPvB assessment:
    - PBT: Not applicable.
    - vPvB: Not applicable.

3: Composition/information on ingredients

- 3.1 Chemical characterization: Substances
- CAS No. Description
  - 302-17-0: Chloral Hydrate
  - Chlorali hydras
- Identification number(s)
  - EC number: 206-117-5
  - Index number: 605-014-00-6

4: First-aid measures

- 4.1 Description of first aid measures
  - General information:
    - Immediately remove any clothing soiled by the product.
    - In case of irregular breathing or respiratory arrest provide artificial respiration.
  - After inhalation:
    - Supply fresh air.
    - Seek medical treatment in case of complaints.
    - In case of unconsciousness place patient stably in side position for transportation.

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Chlorali hydras

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41.0

After skin contact:
If skin irritation continues, consult a doctor.
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:
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.
Hydrogen chloride (HCl)
Phosgene gas

5.3 Advice for firefighters

Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information Collect contaminated fire fighting water separately. It must not enter the sewage system.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

6.2 Environmental precautions:
Damp down dust with water spray.
Keep contaminated washing water and dispose of appropriately.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13.

6.4 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.

7: Handling and storage

7.1 Precautions for safe handling No special precautions are necessary if used correctly.

Information about protection against explosions and fires: No special measures required.

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7.2 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: Store in cool, dry conditions in well sealed receptacles.

7.3 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.

8.1 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.

8.2 Exposure controls
- Personal protective equipment:
  - General protective and hygienic measures:
  - Clean skin thoroughly immediately after handling the product.
  - 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:
  - Suitable respiratory protective device recommended.
  - Filter P3
  - Protection of hands:

   ![Protective gloves]
   The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
   Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
   Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

   - Material of gloves
     - Nitrile rubber, NBR
     - 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.

   - Penetration time of glove material
     - The exact break trough 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

9.1 Information on basic physical and chemical properties

General Information

Appearance:
- Form: Crystalline
- Color: Colorless
- Odor: Characteristic
- Odour threshold: Not determined.

pH-value (100 g/l) at 20 °C (68 °F): 3.5 - 5.5

Change in condition
- Melting point/Melting range: 52 °C (126 °F)
- Boiling point/Boiling range: ~97 °C (~207 °F)

Flash point: Not applicable.

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

Ignition temperature:
- Decomposition temperature: > 97 °C (> 207 °F)
- Auto igniting: Not determined.

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

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

Vapor pressure at 20 °C (68 °F): 13 hPa (10 mm Hg)

Density at 20 °C (68 °F): 1.91 g/cm³ (15.939 lbs/gal)

Relative density: Not determined.

Vapour density: Not applicable.

Evaporation rate: Not applicable.

Solubility in / Miscibility with Water at 20 °C (68 °F): 6600 g/l

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

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

9.2 Other information
No further relevant information available.
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Chlorali hydras

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10: Stability and reactivity

- 10.1 Reactivity
- 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: To avoid thermal decomposition do not overheat.
- 10.3 Possibility of hazardous reactions
Reacts with strong oxidizing agents.
Reacts with alcohols.
Reacts with strong alkali.
Reacts with alkaline metals.
Reacts with earth alkaline metals.
- 10.4 Conditions to avoid No further relevant information available.
- 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products:
Hydrogen chloride (HCl)
Phosgene

11: Toxicological information

- 11.1 Information on toxicological effects
- Acute toxicity:
- LD/LC50 values that are relevant for classification:
<table>
<thead>
<tr>
<th>Route</th>
<th>LD50/LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>479 mg/kg</td>
</tr>
<tr>
<td>Dermal</td>
<td>3030 mg/kg</td>
</tr>
</tbody>
</table>
- 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)
    302-17-0 Chloral Hydrate
    Chlorali hydras 2A
  - NTP (National Toxicology Program) Substance is not listed.
  - OSHA-Ca (Occupational Safety & Health Administration) Substance is not listed.

12: Ecological information

- 12.1 Toxicity
- Aquatic toxicity:
  EC50 (24h) 510 mg/l (Daphnia)
  LC50 (48h) 1720 mg/l (Fish)
- 12.2 Persistence and degradability Not easily biodegradable

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Chlorali hydras

12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
Water hazard class 2 (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Must be specially treated adhering to official regulations.
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.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14: Transport information

14.1 UN-Number
ADR, IMDG, IATA UN2811

14.2 UN proper shipping name
ADR 2811 Toxic solids, organic, n.o.s. (Chloral Hydrate Chlorali hydras)
IMDG, IATA TOXIC SOLID, ORGANIC, N.O.S. (Chloral Hydrate Chlorali hydras)

14.3 Transport hazard class(es)
ADR, IMDG

Class 6.1 Toxic substances
Label 6.1

IATA Class 6.1 Toxic substances

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### 14.4 Packing group
- ADR, IMDG, IATA: III

#### 14.5 Environmental hazards:
- Marine pollutant: No

#### 14.6 Special precautions for user
- Danger code (Kemler): Warning: Toxic substances
- EMS Number: 60, F-A,S-A

#### 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
- Not applicable.
- UN "Model Regulation": UN2811, Toxic solids, organic, n.o.s. (Chloral Hydrate Chlorali hydras), 6.1, III

### 15: Regulatory information

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

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>100.0</td>
</tr>
</tbody>
</table>

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

### 16: Other information

This SDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. The information contained here has been compiled from sources considered to be dependable and is accurate to the best of the Company’s knowledge. However, the information is provided without any representation or warranty, expressed or implied regarding its accuracy or correctness. The Company cannot assume responsibility for adverse events which may occur in the use and/or misuse of this product and expressly disclaims liability for loss, damage and/or expense arising out of or in any way connected with the handling, storage, use and/or disposal of this product.

- Relevant phrases: R 25
- Department issuing SDS: Fagron US Quality Assurance
- Contact: QA@fagron.us
- Date of preparation / last revision: 10/23/2015 / 23
- Abbreviations and acronyms:
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
  - ICAO: International Civil Aviation Organisation
  - 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
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
### 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)
### LC50: Lethal concentration, 50 percent
### LD50: Lethal dose, 50 percent

### Acute Tox. 3: Acute toxicity, Hazard Category 3
### Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
### Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
### Carc. 1B: Carcinogenicity, Hazard Category 1B

* Data compared to the previous version altered.