



Be Right™

SAFETY DATA SHEET

Issue Date 05-Oct-2016

Revision Date 01-Dec-2016

Version 4

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1. IDENTIFICATION

Product identifier

Product Name Ammonia Cyanurate

Other means of identification

Product Code(s) 2653199

Safety data sheet number M00128

UN/ID no UN2680

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory Use. Reagent for ammonia test.

Uses advised against None.

Restrictions on use None.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company
P.O.Box 389 Loveland, CO 80539 USA
(970) 669-3050

Emergency telephone number

(303) 623-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|-----------------------------------|------------|
| Corrosive to metals | Category 1 |
| Skin corrosion/irritation | Category 1 |
| Serious eye damage/eye irritation | Category 1 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Danger

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Hazard statements

H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P234 - Keep only in original container
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P310 - Immediately call a POISON CENTER or doctor/physician
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant stainless steel container with a resistant inliner
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Information

Harmful to aquatic life
May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

| Chemical Name | CAS No | Percent Range | HMRIC # |
|---------------------------------------|-----------|---------------|---------|
| Lithium hydroxide monohydrate | 1310-66-3 | 1 - 5% | - |
| Dichloroisocyanuric acid, sodium salt | 2893-78-9 | 1 - 5% | - |

4. FIRST AID MEASURES

Description of first aid measures

| | |
|---|---|
| General advice | See section 8 for PPE that may be required during handling. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If no local exhaust use approved fume hood and/or respirator. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. Remove from exposure, lie down. Immediate medical attention is required. IF IN EYES: Flush eyes for at least 15 minutes. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| Eye contact | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. |
| Skin contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately. |
| Inhalation | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician immediately. |
| Ingestion | IF SWALLOWED: Rinse Mouth. Do NOT induce vomiting. Call a physician immediately. |
| Self-protection of the first aider | First aider: Pay attention to self-protection. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. |

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Carbon dioxide. Water.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Not classified as flammable according to GHS criteria.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products

May emit toxic and corrosive fumes.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

| | |
|---------------------|--|
| U.S. Notice | Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals. |
| EC Notice | Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance. |
| WHMIS Notice | Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance. |

Personal precautions, protective equipment and emergency procedures

| | |
|---------------------------------|--|
| Personal precautions | Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required. |
| For emergency responders | Use personal protection recommended in Section 8. |

Environmental precautions

| | |
|----------------------------------|--|
| Environmental precautions | Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information. |
|----------------------------------|--|

Methods and material for containment and cleaning up

| | |
|--------------------------------|--|
| Methods for containment | Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading. |
| Methods for cleaning up | Take necessary precautions in observance of pertinent physical hazards. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws. |

Emergency Response Guide Number 154

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Absorb spillage to prevent material damage.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep/store only in original container.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

| Chemical Name | Northwest Territories OEL | Nova Scotia OEL | Nunavut OEL | Ontario TWA | Prince Edward Island OEL |
|---|---------------------------|-----------------|-------------|---------------------------|--------------------------|
| Lithium hydroxide monohydrate 1 - 5% | NDF | NDF | NDF | STEL: 1 mg/m ³ | NDF |

Legend See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls If no local exhaust use approved fume hood or self-contained breathing apparatus
 If no local exhaust use approved fume hood and/or respirator
 Showers
 Eyewash stations

Individual protection measures, such as personal protective equipment

Eye/face protection Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection Do not breathe gas/fumes/vapor/spray. If no local exhaust use approved fume hood and/or respirator. In case of inadequate ventilation wear respiratory protection.

General Hygiene Considerations Avoid breathing (dust, vapor, mist, gas). Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse.

Environmental exposure controls

Avoid creating dust. Do not allow into any sewer, on the ground or into any body of water. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Solid

Gas Under Pressure Not classified according to GHS criteria

Appearance powder **Color** white

Odor Chlorine **Odor threshold** No data available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------------|-------------------|-------------------------|
| Molecular weight | No data available | |
| pH | 12.33 | 5% Solution |
| Melting point/freezing point | > 240 °C / 464 °F | |

| | |
|--|---|
| Boiling point / boiling range | No data available |
| Evaporation rate | Not applicable |
| Vapor pressure | 0.375 mm Hg / 0.05 kPa at 20 °C / 68 °F Estimation based on theoretical calculation |
| Vapor density (air = 1) | Not applicable NaN (air = 1) |
| Specific gravity (water = 1 / air = 1) | 1.783 |
| Partition Coefficient (n-octanol/water) | Not applicable |
| Soil Organic Carbon-Water Partition Coefficient | Not applicable |
| Autoignition temperature | No data available |
| Decomposition temperature | No data available |
| Dynamic viscosity | Not applicable |
| Kinematic viscosity | Not applicable |

Solubility(ies)

Water solubility

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble | No data available | 25 °C / 77 °F |

Solubility in other solvents

| <u>Chemical Name</u> | <u>Solubility classification</u> | <u>Solubility</u> | <u>Solubility Temperature</u> |
|----------------------|----------------------------------|-------------------|-------------------------------|
| Acid | Soluble | > 1000 mg/L | 25 °C / 77 °F |

Other Information

| | |
|---|---|
| Metal Corrosivity | Classified as corrosive to metal according to GHS criteria |
| GHS Metal Corrosivity Classification | Category 1, H290 |
| Steel Corrosion Rate | 0 mm/yr / 0 in/yr |
| Aluminum Corrosion Rate | 20.4 mm/yr / 0.8 in/yr |
| Volatile Organic Compounds (VOC) Content | Not applicable. |
| Bulk density | Not applicable |
| Explosive properties | Not classified according to GHS criteria. |
| Explosion data | No data available |
| Upper explosion limit | No data available |
| Lower explosion limit | No data available |
| Flammable properties | During a fire, irritating and highly toxic gases may be generated by thermal decomposition. Not classified as flammable according |

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to GHS criteria.

Flammability Limit in Air

Upper flammability limit: No data available

Lower flammability limit: No data available

Flash point Not applicable

Method No information available

Oxidizing properties Not classified according to GHS criteria.

Reactivity properties Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

10. STABILITY AND REACTIVITY

Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

Chemical stability

Stable under recommended storage conditions.

Special dangers of the product

None reported

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosive properties

Not classified according to GHS criteria.

Upper explosion limit No data available

Lower explosion limit No data available

Autoignition temperature

No data available

Sensitivity to Static Discharge

None reported

Sensitivity to Mechanical Impact

None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number None reported

Information on Likely Routes of Exposure

| | |
|--|--|
| Product Information | Corrosive to skin. Corrosive to eyes. May be harmful if swallowed. |
| Inhalation | Causes burns. Corrosive by inhalation. |
| Eye contact | Corrosive to the eyes and may cause severe damage including blindness. Causes burns. Corrosive to eyes. |
| Skin contact | Cause severe skin burns and eye damage. Causes burns. |
| Ingestion | Ingestion causes burns of the upper digestive and respiratory tracts. May be harmful if swallowed. Causes burns. |
| Aggravated Medical Conditions | Eye disorders. Skin disorders. Respiratory disorders. |
| Toxicologically synergistic products | None known. |
| Toxicokinetics, metabolism and distribution | See ingredients information below. |

Product Acute Toxicity Data

Test data reported below

Oral Exposure Route

| Endpoint type | Reported dose | Key literature references and sources for data |
|-------------------------|---------------|--|
| Rat LD ₅₀ | 3613 mg/kg | Outside testing |

Dermal Exposure Route

No data available

Inhalation (Dust/Mist) Exposure Route

No data available

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

The following values are calculated based on chapter 3.1 of the GHS document

| | |
|--------------------------------------|------------|
| ATEmix (inhalation-dust/mist) | 39.34 mg/L |
|--------------------------------------|------------|

Ingredient Acute Toxicity Data

Oral Exposure Route

If available, see data below

| Chemical Name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|-----------------------|---|
| Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3 | Rat LD ₅₀ | 225 mg/kg | None reported | None reported | IUCLID (The International Uniform Chemical Information Database) |
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Rat LD ₅₀ | 750 mg/kg | None reported | None reported | ERMA (New Zealand's Environmental Risk Management Authority) HSDB (Hazardous Substances Data Bank) |

Dermal Exposure Route

If available, see data below

| Chemical Name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---------------------|---------------|---------------|---------------|-----------------------|--|
| Dichloroisocyanuric | Rabbit | > 10000 | None | None reported | No information available |

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| | | | | | |
|--|------------------|-------|----------|--|--|
| acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | LD ₅₀ | mg/kg | reported | | |
|--|------------------|-------|----------|--|--|

Inhalation (Dust/Mist) Exposure Route

If available, see data below

| Chemical Name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|--|-------------------------|---------------|---------------|-----------------------|--|
| Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3 | Rat LC ₅₀ | 0.96 mg/L | 4 hours | None reported | IUCLID (The International Uniform Chemical Information Database) |
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Rat LC ₅₀ | 12.5 mg/L | 4 hours | None reported | IUCLID (The International Uniform Chemical Information Database) |

Inhalation (Vapor) Exposure Route

No data available

Inhalation (Gas) Exposure Route

No data available

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

If available, see data below

| Chemical Name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|---------------------------|---------|---------------|---------------|--------------------|--|
| Lithium hydroxide monohydrate (1 - 5%) CAS#: 1310-66-3 | Existing human experience | Human | None reported | None reported | Corrosive to skin | ERMA (New Zealand's Environmental Risk Management Authority) |
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Standard Draize Test | Rabbit | 500 mg | 24 hours | Mild skin irritant | RTECS (Registry of Toxic Effects of Chemical Substances) |

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

If available, see data below

| Chemical Name | Test method | Species | Reported dose | Exposure time | Results | Key literature references and sources for data |
|--|-------------|---------|---------------|---------------|--------------|--|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Rinse Test | Rabbit | None reported | None reported | Eye irritant | RTECS (Registry of Toxic Effects of Chemical Substances) |

Sensitization Information

Product Sensitization Data

Skin Sensitization Exposure Route

No data available.

Respiratory Sensitization Exposure Route

No data available.

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Ingredient Sensitization Data

Skin Sensitization Exposure Route If available, see data below.
Respiratory Sensitization Exposure Route If available, see data below.

Chronic Toxicity Information

Product Repeat Dose Toxicity Data

Oral Exposure Route No data available.
Dermal Exposure Route No data available.
Inhalation (Dust/Mist) Exposure Route No data available.
Inhalation (Vapor) Exposure Route No data available.
Inhalation (Gas) Exposure Route No data available.

Ingredient Repeat Dose Toxicity Data

Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

| Chemical Name | CAS No | ACGIH | IARC | NTP | OSHA |
|---------------------------------------|---------------|--------------|-------------|------------|-------------|
| Lithium hydroxide monohydrate | 1310-66-3 | - | - | - | - |
| Dichloroisocyanuric acid, sodium salt | 2893-78-9 | - | - | - | - |

Legend

| | |
|---|----------------|
| ACGIH (American Conference of Governmental Industrial Hygienists) | Does not apply |
| IARC (International Agency for Research on Cancer) | Does not apply |
| NTP (National Toxicology Program) | Does not apply |
| OSHA (Occupational Safety and Health Administration of the US Department of Labor) | Does not apply |

Product Carcinogenicity Data No data available
Oral Exposure Route No data available
Dermal Exposure Route No data available
Inhalation (Dust/Mist) Exposure Route No data available
Inhalation (Vapor) Exposure Route No data available
Inhalation (Gas) Exposure Route No data available

Ingredient Carcinogenicity Data

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Oral Exposure Route If available, see data below

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Product Germ Cell Mutagenicity *invitro* Data
 No data available.

Ingredient Germ Cell Mutagenicity *invitro* Data If available, see data below

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Ingredient Germ Cell Mutagenicity *invivo* Data

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

Ingredient Reproductive Toxicity Data

Oral Exposure Route If available, see data below

| Chemical Name | Endpoint type | Reported dose | Exposure time | Toxicological effects | Key literature references and sources for data |
|---|------------------------|---------------|---------------|--|--|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Mouse TD _{Lo} | 4000 mg/kg | 9 days | Effects on Newborn Growth statistics (e.g. % reduced weight gain) Physical Specific Developmental Abnormalities Musculoskeletal system | RTECS (Registry of Toxic Effects of Chemical Substances) |

Dermal Exposure Route No data available
 Inhalation (Dust/Mist) Exposure Route No data available
 Inhalation (Vapor) Exposure Route No data available
 Inhalation (Gas) Exposure Route No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life.

Product Ecological Data

Aquatic toxicity

Fish No data available
 Crustacea No data available
 Algae No data available

Terrestrial toxicity

Soil No data available
 Vertebrates No data available
 Invertebrates No data available

Ingredient Ecological Data

Aquatic toxicity

Fish If available, see ingredient data below

| Chemical Name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|---|---------------|----------------------------|------------------|---------------|--|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | 96 hours | <i>Oncorhynchus mykiss</i> | LC ₅₀ | 0.25 mg/L | PEEN (Pan European Ecological Network) |

Crustacea If available, see ingredient data below

| Chemical Name | Exposure time | Species | Endpoint type | Reported dose | Key literature references and sources for data |
|---|---------------|----------------------|------------------|---------------|--|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | 48 Hours | <i>Daphnia magna</i> | LC ₅₀ | 0.28 mg/L | ECHA (The European Chemicals Agency) PEEN (Pan European Ecological Network) |

Algae If available, see ingredient data below

Terrestrial toxicity

Soil No data available
 Vertebrates No data available
 Invertebrates No data available

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Other Information

Persistence and degradability

None known.

Product Biodegradability Data

If available, see ingredient data below.

Ingredient Biodegradability Data

Test data reported below

| Chemical Name | Test method | Biodegradation | Exposure time | Results |
|--|---------------|----------------|---------------|-----------------------|
| Butanedioic acid, 2,3-dihydroxy-[R-(R*, R*)]-, disodium salt (7 - 13%) CAS#: 868-18-8 | None reported | 73% | 14 days | Readily biodegradable |

Bioaccumulation

None known.

Product Bioaccumulation Data

No data available.

Ingredient Bioaccumulation Data

No data available

Additional information

Product Information

Partition Coefficient (n-octanol/water)

Not applicable

Ingredient Information

| Chemical Name | Partition Coefficient (n-octanol/water) | Method |
|---|---|--|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | $\log K_{ow} = -0.06$ | Estimation through KOWWIN v1.68 part of the Estimation Programs Interface (EPI) Suite™ |

Mobility

Mobility in soil: High mobility. If available, see ingredient data below.

Product Information

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Ingredient Information

Additional information

Water solubility

Product Information

| <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water Solubility Temperature</u> |
|--|-------------------------|-------------------------------------|
| Soluble | No data available | 25 °C / 77 °F |

Ingredient Information

| <u>Chemical Name</u> | <u>Water solubility classification</u> | <u>Water solubility</u> | <u>Water solubility temperature °C</u> | <u>Water solubility temperature °F</u> |
|--|--|-------------------------|--|--|
| Lithium hydroxide monohydrate CAS#: 1310-66-3 | Completely soluble | 128000 mg/L | 20 °C | 68 °F |
| Dichloroisocyanuric acid, sodium salt CAS#: 2893-78-9 | Completely soluble | 227000 mg/L | 25 °C | 77 °F |

Other adverse effects

No information available.

| <u>Chemical Name</u> | <u>EU - Endocrine Disruptors Candidate List</u> | <u>EU - Endocrine Disruptors - Evaluated Substances</u> | <u>Endocrine disrupting potential</u> |
|--|---|---|---------------------------------------|
| Dichloroisocyanuric acid, sodium salt (1 - 5%) CAS#: 2893-78-9 | Group III Chemical | - | - |

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|--|---|
| Disposal of wastes | Disposal should be in accordance with applicable regional, national, and local laws and regulations. |
| Contaminated packaging | Do not reuse container. |
| US EPA Waste Number | D002 |
| Special instructions for disposal | Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain. Flush system with plenty of water. |

14. TRANSPORT INFORMATION

U.S. DOT

| | |
|--|--|
| UN/ID no | UN2680 |
| Proper shipping name | Lithium Hydroxide Mixture |
| Hazard Class | 8 |
| Packing Group | II |
| Marine pollutant | This product contains a chemical which is listed as a marine pollutant according to DOT. |
| Emergency Response Guide Number | 154 |

TDG

| | |
|-------------------------|---|
| UN/ID no | UN2680 |
| Hazard Class | 8 |
| Packing Group | II |
| Marine pollutant | This product contains a chemical which is listed as a severe marine pollutant according to TDG. |

IATA

| | |
|-----------------------------|---------------------------|
| UN/ID no | UN2680 |
| Proper shipping name | Lithium Hydroxide Mixture |

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Hazard Class 8
Packing Group II
ERG Code 154

IMDG

UN/ID no UN2680
Proper shipping name Lithium Hydroxide Mixture
Hazard Class 8
Packing Group II

Note: No special precautions necessary.

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.
If the item is part of a reagent set or kit the classification would change to the following:
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.
If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories

TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

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CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania |
|---|------------|---------------|--------------|
| Lithium hydroxide monohydrate 1310-66-3 | X | - | - |
| Dichloroisocyanuric acid, sodium salt 2893-78-9 | X | - | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

| Chemical Name | Global Automotive Declarable Substance List Classifications | Global Automotive Declarable Substance List Thersholds |
|--|---|--|
| Dichloroisocyanuric acid, sodium salt 2893-78-9 | Declarable Substance (LR) Prohibited Substance (LR) | 0.0 % |

NFPA and HMIS Classifications

| | | | | |
|-------------|---------------------------|-------------------------|-----------------------------|--|
| NFPA | Health hazards - 3 | Flammability - 0 | Instability - 0 | Physical and Chemical Properties - |
| HMIS | Health hazards - 3 | Flammability - 0 | Physical Hazards - 0 | Personal protection - X - See section 8 for more information |

Key or legend to abbreviations and acronyms used in the safety data sheet

NIOSH IDLH
ACGIH
NDF

Immediately Dangerous to Life or Health
ACGIH (American Conference of Governmental Industrial Hygienists)
no data

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Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | | |
|------|---------------------------------|---------|---|
| TWA | TWA (time-weighted average) | STEL | STEL (Short Term Exposure Limit) |
| MAC | Maximum Allowable Concentration | Ceiling | Ceiling Limit Value |
| X | Listed | Vacated | These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations. |
| SKN* | Skin designation | SKN+ | Skin sensitization |
| RSP+ | Respiratory sensitization | ** | Hazard Designation |
| C | Carcinogen | R | Reproductive toxicant |
| M | mutagen | | |

Prepared By Hach Product Compliance Department

Issue Date 05-Oct-2016

Revision Date 01-Dec-2016

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet