SECTION 1. IDENTIFICATION

Product name: HTH Super 3" Chlorinating Tablets
Product code: 000000025218

Manufacturer or supplier's details
Company: Arch Chemicals, Inc.
1200 Bluegrass Lakes Parkway
Alpharetta, GA 30004
United States of America (USA)

E-mail address: sds@lonza.com
Emergency telephone number: In case of emergency call CHEMTREC US: 1-800-424-9300,
CHEMTREC WORLD-WIDE: +1-703-527-3887.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity (Oral): Category 4
Skin corrosion/irritation: Category 2
Serious eye damage: Category 1
Specific target organ toxicity - single exposure: Category 3 (Respiratory system)

GHS label elements
Hazard pictograms:

Signal word: Danger

Hazard statements: H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements:
Prevention:
P260 Do not breathe vapours.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT
induce vomiting.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321 Specific treatment (see supplemental first aid instructions on this label).
P362 Take off contaminated clothing and wash before reuse.

Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Chloroisocyanurates

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3,5-Trichloro-1,3,5-triazinane-2,4,6-trione</td>
<td>87-90-1</td>
<td>93.60</td>
</tr>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
<td>3.50</td>
</tr>
<tr>
<td>filter aid</td>
<td></td>
<td>1.50</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice : Call a poison control center or doctor for treatment advice. For 24-hour emergency medical assistance, call Arch Chemical Emergency Action Network at 1-800-654-6911. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

If inhaled : IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

In case of skin contact : IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

In case of eye contact : IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If swallowed: IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Notes to physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water only.

Specific hazards during firefighting: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Closed containers may explode (due to the build up of steam pressure) when exposed to extreme heat.

Further information: Use water to cool containers exposed to fire. On small fires, use water spray or fog. On large fires, use heavy deluge or fog streams. Flooding amounts of water may be required before extinguishment can be accomplished. Do not use dry extinguishers containing ammonium compounds.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Response to a large quantity spill (100 pounds or greater) or when dusting or decomposition gas exposure could occur requires the use of a positive pressure full face supplied air respirator or self contained breathing apparatus (SCBA), chemical resistant gloves, coveralls and boots. In case of fire, this personal protective equipment should be used in addition to normal fire fighter equipment. Compatible materials for response to this material are: neoprene. Protection concerns must also address the following: If this material becomes damp/wet or contaminated in a container, the formation of nitrogen trichloride gas may occur and an explosive condition may exist.

Environmental precautions

Air: Vapors may be suppressed by the use of water fog.
Water: This material is heavier than water. This material is soluble in water. Stop water flow or divert water flow around spill if possible and safe to do so. Begin monitoring for available chlorine and pH immediately.
Soil: Do not contaminate spill material with any organic materials, ammonia, ammonium salts or urea. Clean up all spill material with clean, dry dedicated equipment and place in a clean dry container.

SECTION 7. HANDLING AND STORAGE
Advice on safe handling: Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash off with water. Avoid breathing dust, mist, vapor or gas.

Conditions for safe storage: Store in a cool dry ventilated location, away from sources of ignition or other incompatible conditions and chemicals. Keep container(s) closed. Avoid creating dusts.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>filter aid</td>
<td>Not Assigned</td>
<td>(Respirable fraction.)</td>
<td></td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction.)</td>
<td>1 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>REL</td>
<td>2 mg/m³ (as Al)</td>
<td>NIOSH/GUIDE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m³ (as Al)</td>
<td>Z1A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction.)</td>
<td>1 mg/m³</td>
<td>CAD ON OEL</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to keep airborne exposures below the TLV, PEL or other recommended exposure limit.

Personal protective equipment

Respiratory protection: Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Hand protection

Remarks: Wear impervious gloves to avoid skin contact. A full impervious suit is recommended if exposure is possible to a large portion of the body.

Eye protection: Use chemical goggles.

Skin and body protection: Nitrile Natural Rubber Neoprene (This includes: gloves, boots, apron, protective suit)

Protective measures: An eye wash and safety shower should be provided in the immediate work area.
### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>tablet</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>Sharp, chlorine-like, bleach odor</td>
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<tr>
<td>Odour Threshold</td>
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<tr>
<td>pH</td>
<td>2.6, 1 %</td>
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<tr>
<td>Melting point/freezing point</td>
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<tr>
<td>Boiling point/boiling range</td>
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</tr>
<tr>
<td>Flash point</td>
<td>no data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Product is not known to be flammable, combustible or pyrophoric.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative vapour density</td>
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<tr>
<td>Relative density</td>
<td>&gt; 1 (20 °C)</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
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<tr>
<td>Water solubility</td>
<td>12 g/l (25 °C)</td>
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<td>Partition coefficient: n-octanol/water</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>225 °C</td>
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<tr>
<td>Viscosity, dynamic</td>
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</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>no data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Oxidizing</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>232.41 g/mol</td>
</tr>
</tbody>
</table>

### SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Product will not undergo hazardous polymerization. Product is an
SAFETY DATA SHEET

HTH Super 3" Chlorinating Tablets
Version 1.0  SDS Number: 000000025218  Revision Date: 2018.03.28

Conditions to avoid:
- Sparks, open flame, other ignition sources, and elevated temperatures.
- Contact with small amounts of water may result in an exothermic reaction with the liberation of toxic fumes.
- Damp or slightly wet product (will evolve nitrogen trichloride)
- May be unstable at temperatures above 225 Deg. C (437 Deg. F)

Incompatible materials:
- Organic materials
- Oils
- Grease
- Sawdust
- Reducing agents
- Nitrogen-containing compounds
- Oxidizing
- Acids
- Bases
- Dry fire extinguishers containing ammonium compounds

Hazardous decomposition products:
- Nitrogen trichloride
- Chlorine
- Nitrous oxides
- Cyanates
- Carbon monoxide, Carbon dioxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
- Inhalation, skin, eyes, ingestion

Acute toxicity

Acute oral toxicity (LD50):
- 490 mg/kg
  - Species: Rat

Acute inhalation toxicity (LC50):
- approximately 0.54 mg/l
  - Species: Rat
  - Exposure time: 4 h
  - Test atmosphere: dust/mist
  - Remarks: (Nose Only)

Acute inhalation toxicity (LC50):
- approximately 2.16 mg/l
  - Species: Rat
  - Exposure time: 1 h
  - Test atmosphere: dust/mist
  - Remarks: (Nose Only)

Acute dermal toxicity (LD50):
- > 2,000 mg/kg
  - Species: Rabbit

Skin corrosion/irritation

Skin irritation:
- Remarks: DRY MATERIAL CAUSES MODERATE SKIN IRRITATION.WET MATERIAL CAUSES SKIN BURNS.

Serious eye damage/eye irritation

Eye irritation:
- Remarks: Corrosive to eyes
Respiratory or skin sensitisation

Sensitisation: Remarks: Negative skin sensitizer, guinea pig - Buehler Method

Carcinogenicity

IARC
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Repeated dose toxicity
Remarks: There are no known or reported effects from repeated exposure. Toxicological investigation indicates it does not produce significant effects from chronic exposure.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish (LC50):
- 0.32 mg/l
  Species: Rainbow trout (Salmo gairdneri), Exposure time: 96 h
- 0.30 mg/l
  Species: Bluegill sunfish, Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (LC50):
- 0.21 mg/l
  Species: Daphnia magna, Exposure time: 48 h

Toxicity to terrestrial organisms:
- Dietary LC50 (Anas platyrhynchos (Mallard duck)): > 10,000 ppm
  Exposure time: 8 d
- Acute Oral LD50 (Anas platyrhynchos (Mallard duck)): 1,600 mg/kg
- Dietary LC50 (Colinus virginianus (Bobwhite quail)): 7,422 ppm
  Exposure time: 8 d

Persistence and degradability
no data available

Bioaccumulative potential

Components:
1,3,5-Trichloro-1,3,5-triazinane-2,4,6-trione
Partition coefficient: n-octanol/water : log Pow: 0.94
Method: Calculation method

Mobility in soil
no data available

Other adverse effects
Ozone-Depletion Potential : Regulation: US. EPA Clean Air Act (CAA) Section 602 Ozone-Depleting Substances (40 CFR 82, Subpt. A, App A & B)
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Highly toxic to fish and other aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

SECTION 14. TRANSPORT INFORMATION

IATA

UN number : 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (Trichloro-s-triazinetrione, zinc sulphate)
Transport hazard class : 9
Packing group : III
Labels : 9MI
Environmental hazards : yes

IMDG

UN number : 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (Trichloro-s-triazinetrione, zinc sulphate)
Transport hazard class : 9
Packing group : III
Labels : 9
EmS Number 1 : F-A
EmS Number 2 : S-F
Environmental hazards : Marine pollutant: yes
## ADR

| UN number | 3077 |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Trichloro-s-triazinetrione, zinc sulphate) |
| Transport hazard class | 9 |
| Packing group | III |
| Classification Code | M7 |
| Hazard Identification Number | 90 |
| Labels | 9 |
| Environmental hazards | yes |

## RID

| UN number | 3077 |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Trichloro-s-triazinetrione, zinc sulphate) |
| Transport hazard class | 9 |
| Packing group | III |
| Classification Code | M7 |
| Hazard Identification Number | 90 |
| Labels | 9 |
| Environmental hazards | yes |

## DOT

| UN number | 3077 |
| Proper shipping name | Environmentally hazardous substance, solid, n.o.s. (Trichloro-s-triazinetrione, zinc sulphate) |
| Transport hazard class | 9 |
| Packing group | III |
| Labels | 9 |
| Emergency Response Guidebook Number | 171 |
| Environmental hazards | yes |
TDG

UN number : 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Trichloro-s-triazinetrione, zinc sulphate)
Transport hazard class : 9
Packing group : III
Labels : 9
Environmental hazards : yes

Special precautions for user : 49CFR (DOT) Material is not regulated for ground transportation within the US if shipped in non-bulk packages. Material is not regulated as a marine pollutant for ground transportation within the US if shipped in non-bulk packages (reference 49CFR 171.4(c)).

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable

SECTION 15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals.

Signal word : DANGER!
Hazard statements : Harmful if swallowed.
May be fatal if absorbed through skin.
May be fatal if inhaled.
Corrosive. Causes skin burns.
Corrosive. Causes irreversible eye damage.
This pesticide is toxic to fish.

EPA No. : 1258-1338

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
<td>1000</td>
<td>28571</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards
See above: SECTION 2. Hazard Identification-GHS Classification

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC’s (40 CFR 60.489).

**Clean Water Act**

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
<td>1000</td>
</tr>
<tr>
<td>filter aid</td>
<td>17927-65-0</td>
<td>5000</td>
</tr>
</tbody>
</table>

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Concentration</th>
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</thead>
<tbody>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
<td></td>
</tr>
<tr>
<td>filter aid</td>
<td>17927-65-0</td>
<td></td>
</tr>
</tbody>
</table>

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**US State Regulations**

**Massachusetts Right To Know**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3,5-Trichloro-1,3,5-triazinane-2,4,6-trione</td>
<td>87-90-1</td>
</tr>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
</tr>
<tr>
<td>filter aid</td>
<td></td>
</tr>
</tbody>
</table>

**Pennsylvania Right To Know**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,3,5-Trichloro-1,3,5-triazinane-2,4,6-trione</td>
<td>87-90-1</td>
</tr>
<tr>
<td>zinc sulphate</td>
<td>7446-19-7</td>
</tr>
<tr>
<td>filter aid</td>
<td></td>
</tr>
</tbody>
</table>

**New Jersey Right To Know**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
California Prop. 65
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16. OTHER INFORMATION

1 Arch is a wholly-owned subsidiary of Lonza and continues to operate as Arch Chemicals, Inc.

Revision Date : 2018.03.28

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.