SECTION 1: Identification

1.1. Product identifier
Product name: ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)

1.2. Recommended use and restrictions on use
Manufacturing

1.3. Supplier
Zaclon LLC
2981 Independence Road
Cleveland, OH 44115
T 800-356-7327

1.4. Emergency telephone number
Emergency number: Chemtrec 1 800 424 9300

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
GHS-US/CAN classification
- Acute toxicity (oral) Category 4 H302
- Skin corrosion/irritation Category 1B H314
- Specific target organ toxicity (single exposure) Category 3 H335
- Hazardous to the aquatic environment - Acute Hazard Category 1 H400
- Hazardous to the aquatic environment - Chronic Hazard Category 1 H410

Full text of H statements: see section 16

2.2. GHS Label elements, including precautionary statements
GHS-US/CAN labelling

Signal word: Danger

Hazard statements:
- H302 - Harmful if swallowed
- H314 - Causes severe skin burns and eye damage
- H335 - May cause respiratory irritation
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements:
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
- P264 - Wash ... thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P271 - Use only outdoors or in a well-ventilated area
- P273 - Avoid release to the environment
- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
- P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water
- P304+P340 - IF INHALED: Remove person to fresh air and keep 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
- P310 - Immediately call a POISON CENTER/doctor
- P312 - Call a POISON CENTER/doctor if you feel unwell
- P321 - Specific treatment (see label)
- P330 - Rinse mouth
- P363 - Wash contaminated clothing before reuse
- P391 - Collect spillage
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed
- P405 - Store locked up
- P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

04/05/2018
EN (English US)
2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-CA)
No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-CAN classification</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>40-50</td>
<td>Not classified</td>
<td>Not classified</td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>(CAS No) 7646-85-7</td>
<td>12-40</td>
<td>Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
<td>Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410</td>
</tr>
<tr>
<td>Ammonium chloride</td>
<td>(CAS No) 12125-02-9</td>
<td>20-30</td>
<td>Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Comb. Dust</td>
<td>Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Comb. Dust</td>
</tr>
<tr>
<td>Barium chloride (BaCl2)</td>
<td>(CAS No) 10361-37-2</td>
<td>0.5-2.5</td>
<td>Acute Tox. 3 (Oral), H301 Eye Irrit. 2A, H319</td>
<td>Acute Tox. 3 (Oral), H301 Eye Irrit. 2A, H319</td>
</tr>
</tbody>
</table>

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: If inhaled, remove to fresh air immediately. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse and discard shoes.

First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician.

First-aid measures after ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Call a physician immediately. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory irritation.

Symptoms/injuries after skin contact: Corrosive or irritating to the skin.

Symptoms/injuries after eye contact: Causes eye damage.

Symptoms/injuries after ingestion: Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: As appropriate for combustibles in area.

Unsuitable extinguishing media: None.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Will not burn.

Explosion hazard: None known.

5.3. Advice for firefighters

Protection during firefighting: Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Avoid release to the environment.
6.3. Methods and material for containment and cleaning up

For containment:
- Isolate area. Keep unnecessary personnel away. Stop the flow of material, if this is without risk.

Methods for cleaning up:
- Confine spill and soak up with absorbent. Place in an approved container and dispose in accordance with local, state and federal regulations.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:
- Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:
- Store in a tightly closed container in a dry place. Do not store with cyanides or sulfides.

7.3. Specific end use(s)

Manufacturing

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Compound                  | USA - ACGIH ACGIH TWA (mg/m³) | USA - ACGIH ACGIH STEL (mg/m³) | Canada (Quebec) VECD (mg/m³) | Canada (Quebec) VEMP (mg/m³) | Alberta OEL STEL (mg/m³) | Alberta OEL TWA (mg/m³) | British Columbia OEL STEL (mg/m³) | British Columbia OEL TWA (mg/m³) | Manitoba OEL STEL (mg/m³) | Manitoba OEL TWA (mg/m³) | New Brunswick OEL STEL (mg/m³) | New Brunswick OEL TWA (mg/m³) | New Foundland & Labrador OEL STEL (mg/m³) | New Foundland & Labrador OEL TWA (mg/m³) | Nova Scotia OEL STEL (mg/m³) | Nova Scotia OEL TWA (mg/m³) | Nunavut OEL STEL (mg/m³) | Nunavut OEL TWA (mg/m³) | Northwest Territories OEL STEL (mg/m³) | Northwest Territories OEL TWA (mg/m³) | Ontario OEL STEL (mg/m³) | Ontario OEL TWA (mg/m³) | Prince Edward Island OEL STEL (mg/m³) | Prince Edward Island OEL TWA (mg/m³) | Saskatchewan OEL STEL (mg/m³) | Saskatchewan OEL TWA (mg/m³) | Yukon OEL STEL (mg/m³) | Yukon OEL TWA (mg/m³) | Zinc chloride (7646-85-7) ACGIH TWA (mg/m³) | USA - OSHA OSHA PEL (TWA) (mg/m³) | Canada (Quebec) VEMP (mg/m³) |
|--------------------------|-----------------------------|-------------------------------|-----------------------------|-----------------------------|--------------------------|------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------|-----------------------------|
| Ammonium chloride (12125-02-9) |                             |                               |                             |                             |                          |                        |                                   |                                   |                             |                             |                                   |                                   |                             |                             |                                   |                                   |                             |                             |                                   |                                   |                             |                             |                                   |                                   |                             |                             |                                   |                                   |                             |                             |                                   |                                   |                             |                             |
**ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)**

**Safety Data Sheet**

**Zinc chloride (7646-85-7)**

<table>
<thead>
<tr>
<th>Province</th>
<th>OEL STEL (mg/m³)</th>
<th>OEL TWA (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>2 mg/m³ (fume)</td>
<td>1 mg/m³ (fume)</td>
</tr>
<tr>
<td>Alberta</td>
<td>2 mg/m³ (fume)</td>
<td>1 mg/m³ (fume)</td>
</tr>
<tr>
<td>British Columbia</td>
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<tr>
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<tr>
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</tr>
<tr>
<td>New Brunswick</td>
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<td>1 mg/m³ (fume)</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>2 mg/m³ (fume)</td>
<td>1 mg/m³ (fume)</td>
</tr>
<tr>
<td>New Foundland &amp; Labrador</td>
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<td>1 mg/m³ (fume)</td>
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</tr>
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</tr>
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<tr>
<td>Yukon</td>
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</tr>
<tr>
<td>Yukon</td>
<td>2 mg/m³ (fume)</td>
<td>1 mg/m³ (fume)</td>
</tr>
</tbody>
</table>

**8.2. Exposure controls**

Appropriate engineering controls: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

Hand protection: Use neoprene or PVC rubber gloves, apron, boots; long sleeve shirt and pants. If considerable contact is likely, wear impervious neoprene or PVC rubber clothing or acid suit.

Eye protection: Use chemical splash goggles.

Skin and body protection: Wear suitable working clothes.

Respiratory protection: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

**SECTION 9: Physical and chemical properties**

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Clear</td>
</tr>
<tr>
<td>Odour</td>
<td>odorless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>2.5 - 4</td>
</tr>
<tr>
<td>Relative evaporation rate (butylacetate=1)</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>&gt; 100 °C (&gt;212 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
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<tr>
<td>Self-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>24 mm Hg at 20°C (68°F)/49 mm Hg at 37.7 °C (100 °F)</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.2 - 1.5</td>
</tr>
<tr>
<td>Solubility</td>
<td>Complete</td>
</tr>
</tbody>
</table>

---

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**ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)**

**Safety Data Sheet**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
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<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
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</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2 Other information

No additional information available

### SECTION 10: Stability and reactivity

**10.1 Reactivity**

No additional information available

**10.2 Chemical stability**

The product is stable at normal handling and storage conditions.

**10.3 Possibility of hazardous reactions**

Will not occur.

**10.4 Conditions to avoid**

None

**10.5 Incompatible materials**

Incompatible with cyanides and sulfides (may release toxic gases).

**10.6 Hazardous decomposition products**

At high temperatures, (~343°C; ~650°F) as in intended use, ammonium chloride fumes, zinc oxide fumes, zinc chloride fumes, and ammonia and hydrogen chloride gases may be released.

### SECTION 11: Toxicological information

**11.1 Information on toxicological effects**

- **Acute toxicity (oral)**: Oral: Harmful if swallowed.
- **Acute toxicity (dermal)**: Not classified
- **Acute toxicity (inhalation)**: Not classified

**ATE CA (oral)**: 500 mg/kg body weight

**Water (7732-18-5)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 90 ml/kg</td>
</tr>
</tbody>
</table>

**Ammonium chloride (12125-02-9)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1650 mg/kg</td>
</tr>
</tbody>
</table>

**Zinc chloride (7646-85-7)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1100 mg/kg</td>
</tr>
</tbody>
</table>

**Barium chloride (BaCl2) (10361-37-2)**

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>118 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

- Causes severe skin burns and eye damage.
  - pH: 2.5 - 4

**Serious eye damage/irritation**

- Eye damage, category 1, implicit
  - pH: 2.5 - 4

**Respiratory or skin sensitization**

- Not classified

**Germ cell mutagenicity**

- Not classified

**Carcinogenicity**

- Not classified

**Reproductive toxicity**

- Not classified.

Tests in bacterial or mammalian cell cultures demonstrate mutagenic activity. Tests in some animals indicate that the compound may have embryotoxic activity.
Specific target organ toxicity – single exposure: May cause respiratory irritation.

The product is corrosive to the eyes and corrosive or irritating to skin. Toxic effects described in animals from short exposures include corrosion of mucosal surfaces, liver effects, and kidney effects.

Specific target organ toxicity – repeated exposure: Not classified.

Human health effects of overexposure by inhalation, ingestion, or skin or eye contact may initially include: eye irritation with discomfort, tearing, or blurring of vision; skin irritation with discomfort or rash; or irritation of the upper respiratory passages. Higher exposures may lead to these effects: skin and eye burns or ulceration; temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath; possibly modest initial symptoms, followed in hours by severe shortness of breath, requiring prompt medical attention; fatality from gross overexposure by fume inhalation or by significant ingestion. There are inconclusive or unverified reports of human sensitization. Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

Human health effects of acute over-exposure to barium chloride may include abdominal pain, violent purging with watery and bloody stools, vomiting, muscle twitching, and confusion, followed by reversible muscle paralysis, including paralysis of the respiratory muscles which may be fatal. Chronic overexposure may lead to varying degrees of paralysis of the extremities. Hypertension may also be present. Symptoms of over-exposure will disappear with time as the body eliminates the barium, primarily in the feces. Hypokalemia is often observed; potassium should be administered; large doses may be required.

When the Zaclon® products are heated to high temperatures as those encountered in the galvanizing process, irritating zinc chloride fumes and gaseous hydrogen chloride may be released. Severe exposures may cause pulmonary edema. Heating may also release zinc oxide fumes which may cause metal fume fever.

Aspiration hazard: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Aquatic acute: Very toxic to aquatic life.

Aquatic chronic: Very toxic to aquatic life with long lasting effects.

- **Ammonium chloride (12125-02-9)**
  - LC50 fish 1: 209 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

- **Zinc chloride (7646-85-7)**
  - BCF fish 1: 16000

- **Barium chloride (BaCl2) (10361-37-2)**
  - EC50 Daphnia 1: 14.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

- **Zinc chloride (7646-85-7)**
  - BCF fish 1: 16000

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

- **Ozone**: Not classified

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Product/ Packaging disposal recommendations: Dispose of contents/container in accordance with local/regional/national/international regulations.

### SECTION 14: Transport information
ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)
Safety Data Sheet

14.1. Basic shipping description
In accordance with TDG

TDG
UN-No. (TDG) : UN3264
Packing group : III - Minor Danger
TDG Primary Hazard Classes : 8 - Class 8 - Corrosives
Transport document description : UN3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Contains Zinc Chloride and Zinc Ammonium Chloride), 8, III
Proper Shipping Name (TDG) : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Contains Zinc Chloride and Zinc Ammonium Chloride
Hazard labels (TDG) : 8 - Corrosive substances

TDG Special Provisions : 16 - 1) The technical name of the most dangerous substance related to the primary class must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(i)(A) of Part 3, Documentation. The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4, Dangerous Goods Safety Marks.
2) subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical: a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the "Food and Drugs Act".

Explosive Limit and Limited Quantity Index : 5 L
Excepted quantities (TDG) : E1
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5 L
Marine pollutant : Yes (IMDG only)

14.2. Transport information/DOT

DOT
DOT NA no. : UN3264
UN-No.(DOT) : 3264
Packing group (DOT) : III - Minor Danger
DOT Symbols : G - Identifies PSN requiring a technical name
Transport document description : UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (Contains Zinc Chloride and Zinc Ammonium Chloride), 8, III
Proper Shipping Name (DOT) : Corrosive liquid, acidic, inorganic, n.o.s. (Contains Zinc Chloride and Zinc Ammonium Chloride)
Contains Statement Field Selection (DOT) :
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Division (DOT) : 8
Hazard labels (DOT) : 8 - Corrosive

Dangerous for the environment : Yes
ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)
Safety Data Sheet

Marine pollutant : Yes

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31H21 and 31H22, 31H23, 31H24 and 31H25). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 °C (1.1 bar at 122 °F), or 130 kPa at 55 °C (1.3 bar at 131 °F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

DOT Package Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”
Other information : No supplementary information available.

14.3. Air and sea transport

IMDG
UN-No. (IMDG) : 3264
Proper Shipping Name (IMDG) : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Transport document description (IMDG) : UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S., 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : III - substances presenting low danger

IATA
UN-No. (IATA) : 3264
Proper Shipping Name (IATA) : Corrosive liquid, acidic, inorganic, n.o.s.
Transport document description (IATA) : UN 3264 Corrosive liquid, acidic, inorganic, n.o.s., 8, III, ENVIRONMENTALLY HAZARDOUS
Class (IATA) : 8 - Corrosives
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. Canada National regulations
Water (7732-18-5)
Listed on the Canadian DSL (Domestic Sustances List)

Ammonium chloride (12125-02-9)
Listed on the Canadian DSL (Domestic Sustances List)

Zinc chloride (7646-85-7)
Listed on the Canadian DSL (Domestic Sustances List)

Barium chloride (BaCl2) (10361-37-2)
Listed on the Canadian DSL (Domestic Sustances List)

15.2. US Federal regulations
Water (7732-18-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
ZAC Flux Solutions (W;C;CS;F;K;K6;Sulfate Control;40-50% Solutions)
Safety Data Sheet

### Ammonium chloride (12125-02-9)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### Zinc chloride (7646-85-7)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

### Barium chloride (10361-37-2)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.3. US State regulations

<table>
<thead>
<tr>
<th>Substance</th>
<th>Regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium chloride</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Minnesota - Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - New Jersey - Right to Know Hazardous Substance List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
<tr>
<td>Zinc chloride</td>
<td>U.S. - Massachusetts - Right To Know List</td>
</tr>
<tr>
<td></td>
<td>U.S. - Minnesota - Hazardous Substance List</td>
</tr>
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</tr>
<tr>
<td></td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H-Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.