## SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1. Product Identifier

**Product Name:** Zinn7
**Use:** For use in soldering zinc.
**Supplier:** ALM HM, Grange House, Geddings Road, Hoddesdon, Hertfordshire, EN11 0NT
**TEL:** 01992 801927
**Email:** sales@almhm.co.uk

### 1.2. Composition/Information on Ingredients

| Substance | C (%) | Classification | Specific Concentration | Note |
|---|---|---|---|---|
| Zinc chloride<br><br>**CAS No.:** 7646-85-7<br>**EC No.:** 235-186-4<br>**IDX No.:** 030-003-00-2 | 30%≤C<50% | **H302:** Harmful if swallowed.<br>**H314:** Causes severe skin burns and eye damage.<br>**H400:** Very toxic to aquatic life.<br>**H410:** Very toxic to aquatic life with long lasting effects. | STOT SE 3; H335: C≥5% | N/A |
| Ammonium chloride<br><br>**CAS No.:** 12125-02-9<br>**EC No.:** 235-186-4<br>**IDX No.:** 017-014-00-8 | 3%≤C<5% | **H302:** Harmful if swallowed.<br>**H319:** Causes serious eye irritation. | N/A | N/A |
| Hydrogen chloride<br><br>**CAS No.:** 7647-91-0<br>**EC No.:** 231-595-7<br>**IDX No.:** 017-002-00-2 | 1%≤C<2% | **H290:** May be corrosive to metals.<br>**H314:** Causes severe skin burns and eye damage.<br>**H335:** May cause respiratory irritation. | N/A | [1] |

[1] Substance for which maximum workplace exposure limits are available.

## SECTION 2: Hazards Identification

### 2.1. Classification of Substance or Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]:** Met, Corr. 1
Acute Tox. 4
Skin Corr. 1A
STOT SE 3
Aquatic Chronic 1
**Classification according to Directive 1999/EC [DPD]:** No data available.
**Physicochemical Hazards:** H290 May be corrosive to metals.
**Human Health Hazards:** H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
**Environmental Hazards:** H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

## 2.2. Label Elements

**Hazard Pictograms:**



**Signal Word:** Danger
**Hazard Statements:** H290 May be corrosive to metals.
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.

### 2.2.1. Precautionary Statements

P234 Keep only in original container.

**Prevention:** P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/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.
**Response:** 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/shower/
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. If present and easy to do, remove contact lenses, continue rinsing.
P310 Immediately call a poison centre/doctor.
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.
**Storage:** P403 & P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.
**Disposal:** P501 Dispose of contents and container in accordance with local regulations.
**Hazardous Ingredients:** Zinc chloride, ammonium chloride & hydrogen chloride.
**Supplemental Label Elements:** No data available.
**Annex XVII – Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Mixtures and Articles:** No data available.

### 2.3. Other Hazards

The product does not contain any substance meeting the PBT (Persistent/Bio accumulative/Toxic) or vPvB (Very Persistent and Very Bio accumulative) criteria.

## SECTION 3: First Aid Measures

### 3.1. Description of First Aid Measures

Rescuers must take care of their own protection. If the patient is in danger of becoming unconscious, place and carry the patient in a stable lateral position. Move the victim away from the danger zone. Keep warm, calm and covered. Remove contaminated clothing immediately. Do not give anything to an unconscious person. In case of poisoning, call a poison control centre or doctor for treatment advice, using the product label or packaging. Symptoms of poisoning may appear even after several hours; therefore, medical attention is required for at least 48 hours after the accident.

**First Aid Measures After Inhalation:** Immediate medical attention. Remove person to fresh air and allow to rest. If breathing is irregular or has stopped, give artificial respiration.
**First Aid Measures After Skin Contact:** Rinse with plenty of water for at least 15 minutes. Immediately remove contaminated clothing and wash before reuse or discard if necessary. Immediate medical attention.
**First Aid Measures After Eye Contact:** Remove contact lenses, if present. Immediately rinse thoroughly under running water for at least 15 minutes, holding eyelids apar. Consult an ophthalmologist. Immediate medical attention.
**First Aid Measures After Ingestion:** Call a physician immediately. Do not induce vomiting as there is a danger of aspiration. Rinse mouth immediately with water, keep victim at rest.

#### 3.1.1. Protection of First Aiders

No data available.

### 3.2. Most Important Symptoms and Effects, Both Acute and Delayed

**Symptoms/Effects After Inhalation:** Respiratory tract irritation.
**Symptoms/Effects After Skin Contact:** Skin irritation.
**Symptoms/Effects After Eye Contact:** No data available.
**Symptoms/Effects After Ingestion:** May cause severe burns of the mouth and throat if swallowed, as well as a risk of perforation of the oesophagus and stomach.

### 3.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

**Antidote:** No specific antidote known.
**Special Treatment:** Symptomatic treatment (decontamination, vital functions).

## SECTION 4: Firefighting Measures

### 4.1. Extinguishing Media

**Suitable Extinguishing Media:** Carbon dioxide, alcohol resistant foam, extinguishing powder, water spray.
**Unsuitable Extinguishing Media:** Strong water jet.

### 4.2. Hazards Arising from the Substance or Mixture

**Hazards from the Substance or Mixture:** Chlorine compounds.
**Hazardous Thermal Decomposition Products:** No data available.

### 4.3. Advice for Firefighters

**Special Protective Actions for Firefighters:** No data available.
**Special Protective Equipment for Firefighters:** Appropriate respiratory equipment may be required.
**Additional Information:** Cool closed containers in the vicinity of a fire. Dispose of combustion residues and contaminated water in accordance with local regulations. The product itself is not combustible; determine extinguishing media based on a nearby fire. Collect contaminated extinguishing water separately, do not allow it to enter drains or sewers.

## SECTION 5: Accidental Release Measures

### 5.1. Personal Precautions, Protective Equipment and Emergency Procedures

Avoid breathing vapours.

**For Non-Emergency Personnel:** Use personal protective clothing. Ensure good ventilation of the premises. Keep away from sources of ignition.
**For Emergency Responders:** Not applicable.

### 5.2. Environmental Precautions

Do not discharge into drains or water. Do not discharge into the ground/subsoil. If product enters drains or sewers, notify local water company immediately; in case of contamination of streams, rivers or lakes, notify the Environment Agency.

### 5.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Contain and collect residues with non-flammable absorbent material, such as sand, earth, vermiculite, diatomaceous earth, and store in a suitable container for disposal in accordance with waste regulations.
**Methods for Cleaning Up:** Clean up preferably with detergent; avoid using solvents.
**Other Information:** Ensure adequate ventilation.

## SECTION 6: Handling and Storage

### 6.1. Precautions for Safe Handling

**Protective Measures:** Ensure good ventilation of the premises, if necessary, carry out an extraction at the workplace. Do not return residual quantities to storage container. Do not smoke, eat or drink in application areas. Comply with occupational health and safety laws. Avoid breathing vapours or sprays. Workstation should be equipped with an emergency shower and eyewash station. Avoid contact with skin, eyes, clothing. Observe the usual precautionary measures when handling chemicals. Observe corresponding fire safety measures.
**Hygiene Measures:** Do not breathe fumes/aerosols. Eyewash fountains and safety showers should be readily available. Avoid contact with skin, eyes & clothing. Follow normal precautionary measures when handling chemicals. Remove contaminated clothing and dispose of in a safe manner. Wash hands and/or face before breaks and after work. Keep away from food and feed.

### 6.2. Conditions for Safe Storage, Including any Incompatibilities

Keep away from oxidizing, strongly alkaline and strongly acidic materials. Suitable materials include high density polyethylene (HDPE), low density polyethylene (LDPE), polyethylene terephthalate (PET), polypropylene. Keep container dry. Store in a cool, well-ventilated area. Avoid direct sunlight. Store only in corrosion-resistant containers. Close containers carefully after opening and store upright to prevent leakage. No smoking. No admission for unauthorised personnel. Store only in containers designated or this product. Observe warning labels. Avoid contact with metals. Store away from frost. Store at a temperature between 0-40°C for no longer than 36 months (dispose of product after this period).

### 6.3. Specific End Use(s)

Not applicable.

## SECTION 7: Exposure Controls/Personal Protection

### 7.1. Control Parameters

**Occupational Exposure Limits:**

| Substance | Value | Unit | Type |
|---|---|---|---|
| Hydrogen Chloride CAS: 767-01-0 (EU) | 8 | mg/m³ | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (EU) | 5 | ppm | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (EU) | 15 | mg/m³ | Exposure limit: 15 minutes |
| Hydrogen Chloride CAS: 767-01-0 (EU) | 10 | ppm | Exposure limit: 15 minutes |
| Hydrogen Chloride CAS: 767-01-0 (IE) | 8 | mg/m³ | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (IE) | 5 | ppm | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (IE) | 15 | mg/m³ | Exposure limit: 15 minutes |
| Hydrogen Chloride CAS: 767-01-0 (IE) | 10 | ppm | Exposure limit: 15 minutes |
| Hydrogen Chloride CAS: 767-01-0 (GB) | 2 | mg/m³ | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (GB) | 1 | ppm | Exposure limit: 8 hours |
| Hydrogen Chloride CAS: 767-01-0 (GB) | 8 | mg/m³ | Exposure limit: 15 minutes |
| Hydrogen Chloride CAS: 767-01-0 (GB) | 5 | ppm | Exposure limit: 15 minutes |

**Recommended Monitoring Procedures:** No data available.
**Air Contaminants Formed:** No data available.
**Control Banding:** No data available.

#### 7.1.1. DNEL and PNEC values – Zinc Chloride

*DNEL Worker*

**Oral:** No data available.
**Dermal:** 8.3mg/kg bw/day
**Inhalation:** 1mg/m³

*DNEL Consumer*

**Oral:** 0.83mg/kg bw/day
**Dermal:** 8.3mg/kg bw/day
**Inhalation:** 1.3mg/m³

*PNEC*

**PNEC Aquatic, Freshwater:** 0.0206mg/l
**PNEC Aquatic, Marine Water:** 0.0061mg/l
**PNEC Aquatic, Intermittent Release:** No data available.
**PNEC Sediment, Freshwater:** 117.8mg/kg dw
**PNEC Sediment, Marine Water:** 56.5mg/kg dw
**PNEC Soil:** 35.6mg/kg dw
**PNEC Sewage Treatment Plant (STP):** 0.1mg/l
**PNEC Air:** No data available.
**PNEC Secondary Poisoning:** No data available.

### 7.1.2. DNEL and PNEC values – Ammonium Chloride

*DNEL Worker*

**Dermal:** 128.9mg/kg bw/day

*DNEL Consumer*

**Oral:** 55.2mg/kg bw/day
**Dermal:** 55.2mg/kg bw/day
**Inhalation:** 9.4mg/m³

*PNEC*

**PNEC Aquatic, Freshwater:** 0.25mg/l
**PNEC Aquatic, Marine Water:** 0.025mg/l
**PNEC Aquatic, Intermittent Release:** 0.043mg/l
**PNEC Sediment, Freshwater:** No data available.
**PNEC Sediment, Marine Water:** No data available.
**PNEC Soil:** 50.7mg/kg dw
**PNEC Sewage Treatment Plant (STP):** No data available.
**PNEC Air:** No data available.
**PNEC Secondary Poisoning:** No data available.

## 7.2. Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation. Local exhaust ventilation with good general exhaust should be used. If this is not sufficient to keep particle and vapour concentrations below workplace exposure limits, use suitable certified respirators.
**Thermal Hazards:** No data available.
**Environmental Exposure Controls:** Not applicable.

**7.2.1. Individual Protection Measures**

**Personal Protective Equipment Symbol(s):**



**Hygiene Measures:** No data available.
**Hand Protection:** Chemical resistant protective gloves (EN 374) fluorinated elastomer (FKM) – 0.7mm coating thickness. Protection class 6, corresponding to a permeation time of >480 minutes according to EN ISO 374-1. The protective glove must be tested for its particular suitability (e.g. mechanical strength., product compatibility, anti-static properties). Gloves should be replaced immediately if they are damaged or show signs of wear. It is recommended to use preventive skin protection (skin cream).
**Body Protection:** Chemical-resistant protective clothing according to DIN EN 13034 (type 6).
**Other Skin Protection:** No data available.
**Eye/Face Protection:** Full protection safety glasses (full protection glasses) (EN 166).
**Respiratory Protection:** Respiratory protection required if the exposure limit value (if applicable) may exceed. (Gas filter EN 14387 Type B).

## SECTION 8: Physical and Chemical Properties

**Physical State:** Liquid.
**Colour:** Blue.
**Odour:** No data available.
**Odour Threshold:** No data available.
**pH:** 1
**Melting Point:** No data available.
**Freezing Point:** No data available.
**Boiling Point:** No data available.
**Flash Point:** No data available.
**Evaporation Rate:** No data available.
**Flammability:** Not applicable.
**Vapour Pressure:** No data available.
**Vapour Density:** No data available.
**Relative Density:** 1.300 G/cm³ (20°C) (din51757)
**Solubility:** Dilutable.
**Particion Coefficient n-octanol/water:** No data available.
**Auto-Ignition Temperature:** No data available.
**Decomposition Temperature:** No data available.
**Viscosity (kinematic):** (40°C) No data available.
**Viscosity (dynamic):** No data available.
**Explosive Properties:** Not applicable.
**Oxidising Properties:** Non comburant.
**Explosive Limits:** No data available.
**Other Information:** This is not a self-heating product. Miscible with water.

## SECTION 9: Stability and Reactivity

**Reactivity:** No hazardous reactions, if the instructions/directions for storage and handling are followed. Corrosive effect on metals.
**Chemical Stability:** The product is stable when the prescriptions/recommendations for storage are respected.
**Possibility of Hazardous Reactions:** Reaction with metals causes a formation of hydrogen.
**Conditions to Avoid:** Avoid direct natural light. Avoid freezing. Avoid contact with metals.
**Incompatible Materials:** Metal. Keep away from highly acidic or alkaline substances such as oxidizers to avoid exothermic reactions.
**Hazardous Decomposition Products:** When exposed to high temperatures, hazardous decomposition products, such as carbon monoxide, carbon dioxide, smoke and oxides of nitrogen, may be produced. No hazardous decomposition products, if storage and handling instructions are followed.

## SECTION 10: Toxicological Information

### 10.1. Information on Toxicological Effects

**Acute Toxicity:** Moderate toxicity after a single ingestion.
**Skin Irritation/Corrosion:** Corrosive. Attacks skin and eyes.
**Serious Eye Damage/Irritation:** May cause severe eye damage.
**Respiratory or Skin Sensitisation:** May cause severe burns of the mouth and throat if swallowed, and a risk of perforation of the oesophagus and stomach.
**Germ Cell Mutagenicity:** No data available.
**Carcinogenicity:** Not applicable.
**Reproductive Toxicity:** Not applicable.
**Teratogenicity:** Not applicable.
**Specific Target Organ Toxicity (single exposure):** May cause respiratory tract irritation.
**Specific Target Organ Toxicity (repeated exposure):** Not applicable.
**Aspiration Hazard:** Not applicable.

### 10.2. Information on the Likely Routes of Exposure

No data available.

### 10.3. Potential Acute Health Effects

**Eye Contact:** No data available.
**Inhalation:** No data available.
**Skin Contact:** No data available.
**Ingestion:** No data available.

### 10.4. Symptoms Related to the Physical, Chemical and Toxicological Characteristics

**Eye Contact:** No data available.
**Inhalation:** No data available.
**Skin Contact:** No data available.
**Ingestion:** No data available.

### 10.5. Potential Delayed, Immediate and Chronic Effects from Short- and Long-Term Exposure

#### 10.5.1. Short Term Exposure

**Immediate Effects:** No data available.
**Delayed Effects:** No data available.

#### 10.5.2. Long Term Exposure

**Immediate Effects:** No data available.
**Delayed Effects:** No data available.

#### 10.5.3. Potential Chronic Health Effects

No data available.

### 10.6. Conclusion/Summary

**General:** No data available.
**Carcinogenicity:** Based on available data, the criteria for classification are not met.
**Mutagenicity:** No data available.
**Teratogenicity:** No data available.
**Developmental Effects:** No data available.
**Fertility Effects:** No data available.
**Other Information:** No data available.

## SECTION 11: Ecological Information

**Toxicity:** No test results available. Do not discharge into drains or water.
**Persistence and Degradability:** No data available.
**Bio accumulative Potential:** No data available.
**Mobility in Soil:** No data available.
**Results of PBT and vPvB Assessment:** In accordance with annex XIII of Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), the product does not contain substance meeting the PBT criterion (persistent/bio accumulative/toxic) or vPvB criterion (very persistent and very bio accumulative).
**Other Adverse Effects:** The product does not contain any substances listed in Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer.

## SECTION 12: Disposal Considerations

### 12.1. Waste Treatment Methods

#### 12.1.1. Product

**Methods of Disposal:** National and local regulations must be observed. No disposal through sewage or wastewater systems. Dispose of the substance/product as special waste in accordance with Directive 2008/98/EC.
**Hazardous Waste:** No data available.

### 12.1.2. Packaging

**Methods of Disposal:** Containers that are not properly emptied must be disposed of in accordance with Directive 2008/98/EC. Used packaging must be emptied in the best possible way and disposed of like the product.
**Special Precautions:** No data available.

## SECTION 13: Transport Information

### 13.1. Transport Information

| | Land Transport (ADR/RID) | Inland Waterway Transport (ADN) | Sea Transport (IMDG) | Air Transport (IATA) |
|---|---|---|---|---|
| **UN Number** | 3264 | 3264 | 3264 | 3264 |
| **UN Proper Shipping Name** | Corrosive inorganic liquid, acidic N.O.S. | Corrosive inorganic liquid, acidic N.O.S. | Corrosive inorganic liquid, acidic N.O.S. | Corrosive inorganic liquid, acidic N.O.S. |
| **Transport Hazard Class(es)** | 8 | 8 | 8 | 8 |
| **Hazard Label(s)** |  |  |  |  |
| **Packing Group** | III | III | III | III |
| **Environmental Hazards** | Yes | Yes | Marine Pollutant | N/A |

### 13.2. Special Precautions for User

**Overland Transport:** Tunnel restriction code E.
**Transport by Sea:** No data available.
**Air Transport:** No data available.
**Inland Waterway Transport:** No data available.
**Rail Transport:** No data available.

### 13.3. Transport in Bulk according to Annex II of MARPOL and the IBC Code

No data available.

## SECTION 14: Regulatory Information

### 14.1. Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

#### 14.1.1. Regulations

**Annex XVII of Regulation (EC) No. 1907/2006:** Number 3 in the list.
**Directive 2012/18/EU – Control of Major-Accident Hazards Involving Dangerous Substances (EU):** Aquatic hazards, acute or chronic toxicity category 1.
**Water Hazard Class (German AwSV of 1 August 2017):** (3) Strongly water polluting.

### 14.1.2. Container Information

No data available.

### 14.1.3. Provisions

No data available.

### 14.2. Chemical Safety Assessment

Not applicable.

## SECTION 15: Other Information

The information given in this Safety Data Sheet is based on the supplier's present knowledge and on European and national regulations. This Safety Data Sheet describes safety requirements relative to identified uses; it doesn't guarantee all the product properties particularly in the case of non-identified uses. The product mustn't be used for any uses other than those identified. Since the user's working conditions ae not known by the supplier, it is the responsibility of the user to take all necessary measures to comply with legal requirements for specific uses and avoid negative health effects.

### 15.1. Abbreviations and Acronyms

**ADR:** Accord eruopéen relative au transport international des marchandises Dangereuses par Route.
**ADN:** European Agreement concerning the International Carriage of Dangerous Goods by Inland.
**Waterways. ATE:** Acute Toxicity Estimates.
**CAO:** Cargo aircraft only.
**CAS:** Chemical Abstracts Service.
**CLP:** Regulation on classification, labelling and packaging of substances and mixtures.
**DIN:** German Standards Institute.
**DNEL:** Derived No Effect Level.
**EC50:** Effective concentration 50, which causes the effect of interest for 50% of the population considered.
**EC:** European Community.
**EN:** European Standards.
**IARC:** International Agency for Research on Cancer.
**IATA:** International Air Transport.
**IBC Code:** International Code for the Construction and Equipment of Ships Carrying Hazardous Chemicals in Bulk.
**IMDG:** International Maritime Code for Dangerous Goods.
**ISO:** International Organisation for Standardization.
**LC50:** Median lethal concentration.
**LD50:** Meidam lethal dose.
**MARPOL:** International Convention for the Prevention of Marine Pollution from Ships.
**NEN:** Dutch Standard.
**NOEC:** No Observed Effect Concentration.
**OEL:** Occupational Exposure Limit.
**OECD:** Organisation for Economic Co-operation and Development.
**PBT:** Persistent Bio accumulative and Toxic.
**PNEC:** Predicted No Effect Concentration.
**PPM:** Parts per million.
**RID:** Regulations concerning the International.
**TWA:** Mean Exposure Limit.
**UN Number:** UN number for the transport of dangerous goods.
**vPvB:** very persistent and very bio accumulative.

## 15.2. Relevant R, H and EUH Phrases

**H290 / Met. Corr. 1:** May be corrosive to metals.
**H302 / Acute Tox. 4:** Harmful if swallowed.
**H314 / Oral Skin Corr.:** Causes severe skin burns and eye damage.
**H319 / 1A Eye Irrit. 2:** Causes serious eye irritation.
**H335 / STOT SE 3:** May cause respiratory irritation.
**H400 / Aquatic Acute 1:** Very toxic to aquatic life.
**H410 / Aquatic Chronic 1:** Very toxic to aquatic life with long lasting effects.