

SECTION 1: Identification
1.1. Product identifier

Product form : Mixture
 Product name : Flux Zinc

1.2. Recommended use and restrictions on use

Smelting / deoxidizing agent for hot dip galvanizing kettles.

1.3. Supplier

SOPRIN S.r.l.
 Via dell'Industria 106
 31052 Maserada Sul Piave (TV) - Italy
 T (+39) 0422 521025 - F (+39) 0422 521060
soprin@soprin.it (Alessandro Padovan)

1.4. Emergency telephone number

Emergency number : (+39) 0422 521025

SECTION 2: Hazard identification
2.1. Classification of the substance or mixture
Classification (GHS-US/ CAN)

Skin corrosion/irritation Category 2 H315
 Serious eye damage/eye irritation Category 2 H319
 Full text of H statements : see section 16

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

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 - Causes skin irritation
 H319 - Causes serious eye irritation

Precautionary statements : P264 - Wash thoroughly after handling
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302+P352 - IF ON SKIN: Wash with plenty of water
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P337+P313 - If eye irritation persists: Get medical advice/attention
 P362+P364 - Take off contaminated clothing and wash it before reuse

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US/CAN)

No data available

SECTION 3: Composition/Information on ingredients
3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification (GHS-CA) | GHS-US classification |
|-------------------|---------------------|-----------|---|---|
| Ammonium chloride | (CAS No) 12125-02-9 | 30 - 32.5 | Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Comb. Dust | Acute Tox. 4 (Oral), H302 |
| Ammonium nitrate | (CAS No) 6484-52-2 | 15 - 16.5 | Ox. Sol. 3, H272 Eye Irrit. 2A, H319 | Ox. Sol. 3, H272 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 |

Full text of hazard classes and H-statements : see section 16

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SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.
- First-aid measures after skin contact : Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.
- First-aid measures after eye contact : Remove contact lenses, if present Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.
- First-aid measures after ingestion : Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

- Symptoms/injuries after inhalation : Vapour inhalation may moderately irritate the upper respiratory tract.
- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes eye irritation.
- Symptoms/injuries after ingestion : Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

- Suitable extinguishing media : Use water only. Do not attempt to smother the fire. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

5.2. Unsuitable extinguishing media

- Unsuitable extinguishing media : Do not use salt water, dry chemical, carbon dioxide, steam or foam.

5.3. Specific hazards arising from the hazardous product

- Fire hazard : If large quantities of the product are involved in a fire, they can make it considerably worse. Do not breathe combustion products.
- Explosion hazard : May be explosive in contact with flammable or organic substances during fire.

5.4. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : In the case of fire, use jets of water to cool the containers to prevent the risk of explosions (product decomposition and excess pressure) and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Remove all containers containing the product from the fire, if it is safe to do so.
- Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

If there are no contraindications, spray powder with water to prevent the formation of dust. Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Methods and materials for containment and cleaning up

- For containment : Stop the flow of material, if this is without risk.
- Methods for cleaning up : Collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues.
- Make sure the leakage site is well aired. Evaluate the compatibility of the container to be used, by checking section 10. Contaminated material should be disposed of in compliance with the provisions set forth in Section 13.

6.3. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure that there is an adequate earthing system for the equipment and personnel. Avoid contact with eyes and skin. Do not breathe powders, vapours or mists. Do not eat, drink or smoke during use. Wash hands after use. Avoid leakage of the product into the environment.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store only in the original container. Store in a ventilated and dry place, far away from sources of ignition. Keep containers well sealed. Keep the product in clearly labelled containers. Avoid overheating. Avoid violent blows. Keep containers away from any incompatible materials.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ammonium chloride (12125-02-9) | | |
|--------------------------------|---------------------------------|-----------------------------|
| USA - ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (fume) |
| USA - ACGIH | ACGIH STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Canada (Quebec) | VECD (mg/m ³) | 20 mg/m ³ (fume) |
| Canada (Quebec) | VEMP (mg/m ³) | 10 mg/m ³ (fume) |
| Alberta | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Alberta | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| British Columbia | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| British Columbia | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Manitoba | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Manitoba | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| New Brunswick | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| New Brunswick | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| New Foundland & Labrador | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| New Foundland & Labrador | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Nova Scotia | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Nova Scotia | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Nunavut | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Nunavut | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Northwest Territories | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Northwest Territories | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Ontario | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Ontario | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Prince Edward Island | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Prince Edward Island | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Saskatchewan | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Saskatchewan | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |
| Yukon | OEL STEL (mg/m ³) | 20 mg/m ³ (fume) |
| Yukon | OEL TWA (mg/m ³) | 10 mg/m ³ (fume) |

8.2. Exposure controls

| | |
|----------------------------------|---|
| Appropriate engineering controls | : Local exhaust and general ventilation must be adequate to meet exposure standards. |
| Hand protection | : Use impervious gloves such as neoprene, nitrile, or rubber for hand protection. |
| Eye protection | : Wear protective airtight 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

| | |
|---|---------------------|
| Physical state | : Solid |
| Color | : Dark grey |
| Odor | : Odorless |
| Odor threshold | : No data available |
| pH | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Relative evaporation rate (ether=1) | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : > 500 °C |
| Auto-ignition temperature | : 400 °C |

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| | |
|---------------------------|---------------------|
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : No data available |
| Vapor pressure at 50 °C | : No data available |
| Relative density | : 0.63 |
| Solubility | : No data available |
| Log Pow | : No data available |
| Viscosity, kinematic | : No data available |
| Explosion limits | : No data available |

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

The powders are potentially explosive when mixed with air.

AMMONIUM CHLORIDE

Violent reaction under influence of oxidising agents. Incompatible with bases. It reacts with nitrite.

10.4. Conditions to avoid

Avoid environmental dust build-up, moisture and sources of heat.

Store in well sealed containers out of contact with reducing agents, combustibles and metal powders to avoid explosive reactions and fires.

10.5. Incompatible materials

AMMONIUM CHLORIDE: Water, bromine trifluoride and pentafluoride, iodine heptafluoride, potassium chlorate, alkalis, alkaline carbonates, acids, lead and silver salts.

AMMONIUM NITRATE

Reducing agents, strong acids and bases, metal powders, combustible materials, chromates, zinc, copper and copper alloys, chlorates.

10.6. Hazardous decomposition products

AMMONIUM CHLORIDE: nitric oxide, ammonia and hydrochloric acid.

AMMONIUM NITRATE: nitric oxides, oxygen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|-----------------------------|------------------|
| Acute toxicity (oral) | : Not classified |
| Acute toxicity (dermal) | : Not classified |
| Acute toxicity (inhalation) | : Not classified |

| Ammonium nitrate (6484-52-2) | |
|------------------------------|----------------|
| LD50 oral rat | 2217 mg/kg |
| LC50 inhalation rat (mg/l) | > 88.8 mg/l/4h |

| Ammonium chloride (12125-02-9) | |
|--------------------------------|------------|
| LD50 oral rat | 1650 mg/kg |

| | |
|--|----------------------------------|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : Not classified |
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |

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SECTION 12: Ecological information

12.1. Toxicity

Aquatic acute : Not classified
Aquatic chronic : Not classified

| Ammonium nitrate (6484-52-2) | |
|------------------------------|-------------------------------|
| BCF fish 1 | (no bioaccumulation expected) |
| Log Pow | -3.1 (at 25 °C) |

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

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| Ammonium nitrate (6484-52-2) | |
|------------------------------|-------------------------------|
| BCF fish 1 | (no bioaccumulation expected) |
| Log Pow | -3.1 (at 25 °C) |

12.4. Mobility in soil

| Ammonium nitrate (6484-52-2) | |
|------------------------------|-----------------|
| Log Pow | -3.1 (at 25 °C) |

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

14.1. Basic shipping description

In accordance with TDG

TDG

Not regulated for transport

14.2. Transport information/DOT

DOT

Not regulated for transport

14.3. Air and sea transport

IMDG

Not regulated for transport

IATA

Not regulated for transport

SECTION 15: Regulatory information

15.1. Canada National regulations

| Ammonium nitrate (6484-52-2) | |
|---|--|
| Listed on the Canadian DSL (Domestic Substances List) | |

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

15.2. US Federal regulations

| Ammonium nitrate (6484-52-2) | |
|---|--|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

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Ammonium chloride (12125-02-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

CERCLA RQ 5000 lb

15.3. US State regulations

Ammonium nitrate (6484-52-2)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Ammonium chloride (12125-02-9)

U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

| | |
|------|-------------------------------|
| H272 | May intensify fire; oxidizer |
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |

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