

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : High Speed Flux 50 Degree Solutions (Regular; Special)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Manufacturing

1.3. Details of the supplier of the safety data sheet

Zaclon LLC
2981 Independence Road
Cleveland, OH 44115
T 216-271-1569 or 800-356-7327

1.4. Emergency telephone number

Emergency number : Chemtrec 1 800 424 9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
STOT SE 3 H335
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

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 (GHS-US) :

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
P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
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
P310 - Immediately call a POISON CENTER or doctor/physician
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P321 - Specific treatment (see label)
P330 - If swallowed, rinse mouth
P363 - Wash contaminated clothing before reuse
P391 - Collect spillage
P403+P233 - Store in a well-ventilated place. Keep container tightly closed

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

P405 - Store locked up
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

Full text of H-phrases: see section 16

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|-------------------|---------------------|--------|--|
| Zinc chloride | (CAS No) 7646-85-7 | 45 | Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| Ammonium chloride | (CAS No) 12125-02-9 | 2 - 10 | Acute Tox. 4 (Oral), H302 |

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

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

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

| Ammonium chloride (12125-02-9) | | |
|--------------------------------|---------------------------------|----------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ |
| USA ACGIH | ACGIH STEL (mg/m ³) | 20 mg/m ³ |

| Zinc chloride (7646-85-7) | | |
|---------------------------|-------------------------------------|---------------------|
| USA ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ |
| USA ACGIH | ACGIH STEL (mg/m ³) | 2 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1 mg/m ³ |

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

| | |
|--|----------------------------|
| Physical state | : Liquid |
| Colour | : Colorless to light straw |
| Odour | : Odorless |
| Odour threshold | : No data available |
| pH | : 2.0 - 4.0 |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : < -46 °C (<-50°F) |
| Freezing point | : No data available |
| Boiling point | : > 100 °C (>212 °F) |
| Flash point | : No data available |
| Self ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : No data available |
| Vapour pressure | : No data available |

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

| | |
|----------------------------------|---------------------|
| Relative vapour density at 20 °C | : No data available |
| Specific gravity | : 1.52 - 1.53 |
| Solubility | : No data available |
| Log Pow | : No data available |
| Log Kow | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive 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

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

After drying, may release zinc oxide fumes, zinc chloride fumes, ammonium chloride and ammonia and hydrogen chloride gases at high temperatures.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if swallowed.

High Speed Flux 50 Degree Solutions (Regular; Special)

| | |
|------------|--------------------------|
| ATE (oral) | 500.000 mg/kg bodyweight |
|------------|--------------------------|

Ammonium chloride (12125-02-9)

| | |
|---------------|------------|
| LD50 oral rat | 1410 mg/kg |
|---------------|------------|

Zinc chloride (7646-85-7)

| | |
|---------------|-----------|
| LD50 oral rat | 350 mg/kg |
|---------------|-----------|

Skin corrosion/irritation : Causes severe skin burns and eye damage.

pH: 2.6 - 2.7

Serious eye damage/irritation : Not classified

pH: 2.6 - 2.7

Respiratory or skin sensitisation : 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.

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

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

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ammonium chloride (12125-02-9)

| | |
|---------------|--|
| LC50 fishes 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

Zinc chloride (7646-85-7)

| | |
|------------|-------|
| BCF fish 1 | 16000 |
|------------|-------|

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1840 Zinc chloride, solution, 8, III

UN-No.(DOT) : 1840

DOT NA no. : UN1840

DOT Proper Shipping Name : Zinc chloride, solution

Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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).

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Packaging Non Bulk (49 CFR 173.xxx) : 203

DOT Packaging Bulk (49 CFR 173.xxx) : 241

High Speed Flux 50 Degree Solutions (Regular; Special)

Safety Data Sheet

DOT Quantity Limitations Passenger aircraft/rail : 5 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L
CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

SECTION 15: Regulatory information

15.1. US Federal regulations

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

15.2. US State regulations

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

Zinc chloride (7646-85-7)

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:

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Aquatic Acute 1 | Hazardous to the aquatic environment — Acute Hazard, Category 1 |
| Aquatic Chronic 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 1 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| STOT SE 3 | Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation |
| 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 |

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