

SAFETY DATA SHEET

According to Regulation (EC) No 2020/878

Issue Date : 18.10.2018
Form No: GBF202212090482

Revision Date : 09.12.2022
Revision no : 01



Product Name: **CRYSTAL FLUX**

1.PRODUCT AND COMPANY IDENTIFICATION

Product Name : CRYSTAL FLUX

Chemical Family : Mixture.

Substances in nanoforms : None.

Identified Use : Industrial use.

Uses advised against : No specific uses advised against are identified.

Details of the manufacturer and supplier of the safety data sheet :

Company name: Meb Metal ve Bileşikleri San. Tic. A.Ş.

Address : Barış Mah. 1804/2 Sok.No:24 Gebze/KOCAELİ /TÜRKİYE

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2.HAZARDS IDENTIFICATION

Classification of the substance or mixture :

Classification according to Regulation (EC) No 1272/2008 (CLP):

Skin Corr. 1B;H314

GHS05



**Acute Tox. 4;H302
STOT SE 3;H335**

GHS07



**Aquatic Acute 1; H400
Aquatic Chronic 1;H410**



Hazard Statements (H):

H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H335 : May cause respiratory irritation.

H410 : Very toxic to aquatic life with long-lasting effects

Precautionary Statements (P):

P202 : Do not handle until all safety precautions have been read and understood.

P260 : Do not breathe dust/fume/gas/mist.

P270 : Do not eat, drink or smoke when using this product.

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P273 : Avoid release to the environment.

P280 : Wear protective gloves, eye and face protection.

P305/351/338/313 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

P302 /352/333/313 IF ON SKIN : Wash with soap and water. If skin irritation or a rash occurs: Get medical advice/attention.

P304+P340 IF INHALED : Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P301 + P330 + P331 IF SWALLOWED : Rinse mouth. Do NOT induce vomiting.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P501: Dispose of contents/container to comply with local, state and federal regulations.

Physical hazards : Not classified.

Human Health : Very irritating to eyes ,skin and respiratory system. Harmful if swallowed. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

Environment : Very toxic to aquatic life with long-lasting effects.

Label Elements :

Label In Accordance With (EC) No. 1272/2008 :

GHS Pictogram code : GHS05. GHS07. GHS09.

Signal Word : Danger.

Hazard Determining Components : Zinc chloride; Ammonium chloride.

See hazard pictograms, H and P statements above.

Other Hazards : None.

This product does not contain any PBT or vPvB substances.

Endocrine disrupting properties : None.

3.COMPOSITION/INFORMATION ON INGREDIENTS

Mixture: consisting of the following components (Chemical Analysis) :

Components	Cons. % w/w	EC no	CAS no	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Zinc chloride	25-60	231-592-0	7646-85-7	Acute Tox. 4; H302 Skin Corr.1B;H314 Aquatic Acute 1;H400 Aquatic Chronic 1;H410 STOT SE 3;H335 : C ≥ % 5
Ammonium chloride	40-75	235-186-4	12125-02-9	Acute Tox. 4;H302 Eye Irrit. 2;H319

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Composition Comments : The data shown are in accordance with the latest EC Directives

4. FIRST AID MEASURES

Description of first aid measures :

General : Take off all contaminated clothes. Do not get in eyes, on skin, do not breathe. Get medical attention.

Inhalation: Remove to fresh air. Get medical attention if any discomfort continues.

Eye contact: Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Ingestion: Do not induce vomiting. Rinse mouth with plenty of water. Drink a few glasses of water or milk. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed :

Inhalation : Inhalation of mists can cause corrosive action on mucous membranes. Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.

Ingestion : Causes corrosive burns of the mouth, gullet and gastrointestinal tract if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain.

Skin contact : Severe skin irritation. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues.

Eye contact : Severe eye irritation or damage. Symptoms include eye burns, watering eyes.

Indication of any immediate medical attention and special treatment needed : Eyes, skin or respiratory system irritation or burns; toxicity effects like nausea, fever, dizziness, headache, vomiting or loss of consciousness.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Specific Hazards : Toxic chlorine gas is released at high temperatures. Fire must be intervened immediately.

Extinguishing Media: This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials like CO₂, foam or dry chemicals.

Unsuitable Extinguishing Media : Water jet.

Unusual Fire and Explosion Hazards: In case of fire, the following can be released: Carbon, zinc and ammonium oxides, zinc chloride, ammonium chloride, hydrogen chloride and other chlorine gases.

Advice for fire-fighters : Wear self-contained respiratory protective device. Wear fully protective suit.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Wear protective clothing as described in section 8 of this safety data sheet. Ensure adequate air ventilation. Avoid eyes and skin contact. Do not breathe dusts or mists.

Methods and material for containment and cleaning up : Eliminate flames, sparks, excessive temperatures. Do not touch spilled material. Small quantities may be flushed to drains with plenty of water. Large Spillages: Pick up mechanically with vacuum and store in an appropriate waste disposal container. Prevent entry into sewers, basements or confined areas.

Environmental precautions : Keep spills away from drinking water supplies. Prevent entry into sewers, basements or confined areas. Dispose according to federal, state and local official regulations.

7. HANDLING AND STORAGE

Precautions for safe Handling: Provide good ventilation. Keep away from all ignition sources and sparks. Avoid eyes and skin contact. Do not breathe dusts and mists. Observe good chemical hygiene practices. Keep away from metals and reactive materials. Do not mix with cyanide and sulfur. Dust mixtures may cause explosion. Do not eat, drink or smoke during use.

Conditions for Safe Storage, including any incompatibilities: Store at moderate temperatures in dry, well ventilated area under 40°C (104 F). Keep away from incompatibles such as oxidizing agents, acids and alkalis. Keep away from heat sources and open flames. Keep containers closed and upright protected from physical damage. Provide eye wash stations and safety showers in storage areas.

Specific end use(s) : The identified uses for this product are detailed in Section 1.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits :

Zinc Chloride	TWA : 1 mg/m ³
Ammonium Chloride	TWA : 10 mg/m ³
Chlorine gas (Cl ₂)	TWA : 0.5 ppm ,2 mg/m ³

DNEL (Derived No Effect Level):

Zinc Chloride: None.

Chlorine (Cl₂) :

DNEL (worker-inhalation- short term -local effect) : 1.55 mg/m³

DNEL (worker-inhalation- short term -systemic effect) : 1.55 mg/m³

DNEL (worker-inhalation- long term-local effect) : 0.75 mg/m³

DNEL (worker-inhalation- long term-systemic effect) : 0.75 mg/m³

DNEL (general population -inhalation- short term-local effect) : 1.55 mg/m³

DNEL (general population -inhalation- short term-systemic effect) : 1.55 mg/m³

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DNEL (general population -inhalation- long term-local effect) : 0.75 mg/m³
DNEL (general population -inhalation- long term-systemic effect) : 0.75 mg/m³

Ammonium Chloride

DNEL (worker-inhalation- long term-systemic effect) : 43.97 mg/m³
DNEL (worker -dermal- long term-systemic effect) : 128.9 mg/kg/day
DNEL (general population -inhalation- long term-systemic effect) : 9.4 mg/m³
DNEL (general population -dermal- long term-systemic effect) : 55.2 mg/kg/day
DNEL (general population -oral- long term-systemic effect) : 55.2 mg/kg/day
DNEL (general population -oral- short term-systemic effect) : 55.2 mg/kg/day

Exposure controls :

Engineering measures : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of dusts and mists below their respective threshold limit value. The usual precautionary measures are to be adhered to when handling chemicals. Keep away from foodstuffs, beverages and feed. Wash hands before breaks and at the end of work. Do not eat or drink while working. Avoid contact with the eyes and the skin. Provide eyewash stations and safety showers.

Personal Protection :

Eye Protection: Safety glasses, goggles or a face shield (EN 166).

Hands Protection : Protective PVC or neopren gloves (EN 374).

Skin and Body Protection: Protective work clothing.

Respiratory Protection : Use suitable NIOSH approved filter mask or respiratory protective device.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid in crystal form.

Colour : White or light yellow.

Odour : No odour.

pH (soln.) : 3.5-5.0

Flash Point : Not applicable.

Boiling Point : Not available.

Melting Point : 343°C.

Relative density : Not available.

Oxidation Properties : None.

Explosive Properties : None.

Solubility : Partially soluble in water.

10. STABILITY AND REACTIVITY DATA

Chemical Stability : Stable under prescribed storage and normal use conditions. Produces toxic gases in contact with acids.

Reactivity : Avoid contact with acids and alkalis.

Possibility of hazardous reactions : Exothermic reaction with water.

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Conditions to avoid : Excessive heat and open flames, water and humidity. Do not allow the moist material to come into contact with liquid metals.

Incompatibility :

Materials to avoid : Oxidizing agents, acids and alkalis; water and humidity.

Hazardous Decomposition or By Products: On heating/burning: release of toxic and corrosive gases/vapours (Carbon, zinc and ammonium oxides, zinc chloride, ammonium chloride, hydrogen chloride and other chlorine gases)

11. TOXICOLOGICAL INFORMATION

Information on hazard classes as defined in Regulation (EC) No 1272/2008 :

Acute toxicity : Not toxic. Harmful if swallowed.

LD₅₀ oral rat (Zinc Chloride) : 1100 mg/kg

LD₅₀ oral rat (Ammonium Chloride) : 1410 mg/kg

ATE_{mix} oral : < 2000 mg/kg

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) : None.

Specific target organ toxicity – single exposure :

STOT – Single exposure : May cause respiratory irritation.

Specific target organ toxicity – repeated exposure :

STOT – Repeated exposure : None.

Aspiration Toxicity : None.

Information on likely routes of exposure : Inhalation, skin contact, eye contact.

Symptoms related to the physical, chemical and toxicological characteristics :

Acute effects :

Inhalation : Inhalation of vapours and mists can cause corrosive action on mucous membranes .

Symptoms include burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.

Ingestion : Harmful if swallowed. Causes corrosive burns of the mouth, gullet and gastrointestinal tract if swallowed. Symptoms include burning, choking, nausea, vomiting and severe pain.

Eye contact : Causes severe eye irritation or damage. Symptoms include eye burns, watering eyes.

Skin contact : Causes severe skin irritation. Symptoms include burning, itching, redness, inflammation and/or swelling of exposed tissues.

Sensitization : None.

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Delayed and immediate effects as well as chronic effects from short and long-term exposure :
Chronic Toxicity : On repeated exposure eyes, nose and skin irritation. Prolonged skin exposure causes skin irritation, dryness and itching.

Information on other hazards :
Endocrine disrupting properties : None.

12. ECOLOGICAL INFORMATION

Ecotoxicity : Very toxic to aquatic life with long-lasting effects.
Do not discharge into drains or rivers.

Zinc Chloride :

LC₅₀ : 0.215-0.415 mg/L /96 h (Cyprinus carpio)
EC₅₀ : 0.154-0.095 mg/L /48 h (Daphnia magna)

Ammonium chloride :

LC₅₀ : 42.91 mg/L /96 h (Fish-Rainbow trout))
EC₅₀ : 136.6 mg/L /48 h (Daphnia magna)

PNEC (PREDICTED NO-EFFECT CONCENTRATION)

Zinc Chloride : :

PNEC (fresh water) : 30 µg/L
PNEC (marine water) : 15 µg/L
PNEC (STP) : 204.8 µg/L
PNEC (Sediment) : 306.2 mg/kg (fresh water)
PNEC (Sediment) : 338.1 mg/kg (marine water)
PNEC (Soil) : 173.2 mg/kg

Secondary poisoning : No potential for bioaccumulation.

Ammonium chloride :

PNEC (fresh water) : 0.25 mg/L
PNEC (marine water) : 0.025 mg/L
PNEC (Soil) : 50.7 mg/kg

Secondary poisoning : No potential for bioaccumulation.

Toxicity : No data available.

Persistence and degradability : Biodegradation is not applicable to metals/inorganic substances.
Tests are not to be conducted if the substance is inorganic.

Bioaccumulative potential : No bioaccumulation expected.

Mobility in soil : No information.

Results of PBT and vPvB assessment : This product does not contain any PBT or vPvB substances.

Endocrine disrupting properties : None.

Other adverse effects : No information required.

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13. DISPOSAL CONSIDERATIONS

General information : This product is hazardous waste.

Waste treatment methods : Do not discharge into drains or rivers.
Dispose according to federal, state and local official regulations.

14. TRANSPORT INFORMATION

General Classification (IMDG, IATA/ICAO, ADR/RID/DOT) :

UN No : UN 2331

Proper Shipping Name : UN 2331 ZINC CHLORIDE, ANHYDROUS

Transport label : 8

Packing group : III

Danger code : 80

Tunnel code : E

EmS Code : F-A,S-B

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

Environmental Hazards : Yes.

Environmentally hazardous substance/Marine pollutant : Yes (Zinc Chloride).

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture :

EU Legislation :

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Approved Code of Practice :

Safety Data Sheets for Substances and Preparations.

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes :

Workplace Exposure Limits EH40.

Chemical Safety Assessment : Chemical Safety Assessment has not been carried out..

The regulatory information is not intended to be comprehensive. Other local regulations may apply to this material.

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16. OTHER INFORMATION

This Safety Data Sheet (SDS) has been fully issued according to the CLP and REACH regulations based on the information received from the product owner.

Safety Data Sheet Issued By : Chemical Engineer Birgul Ankaralı (info@okyanuschem.com)
Date Issued : 18.10.2018

Revision Date : 09.12.2022

Contact Person : Evren KUMCU : info@mebmetal.com.tr

Safety Data Sheet has been revised due to regulation change.

Hazard Statements in Article 3 :

H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H319 : Causes serious eye irritation.

H335 : May cause respiratory irritation.

H400 : Very toxic to aquatic life.

H410: Very toxic to aquatic life with long-lasting effects.

Abbreviations in SDS :

CLP:Classification, Labelling and Packaging

GHS:Global Harmonised System

CAS no: Chemical Abstracts Service registry number of the material

EC no (EINECS no) : European Community number for chemicals

TWA : A Time-Weighted Average Exposure Limit

IARC : : The International Agency for Research on Cancer

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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