

SAFETY DATA SHEET

40-0-5 Hydrofuse Fe & Mn

Version 1.0
Version Date
03/01/2016

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY UNDERTAKING

1.1 Product identifier

Product name 40-0-5 Hydrofuse Fe & Mn

1.2 Relevant use of the product

Applications Fertilizer

1.3 Manufacturer, Importer or Responsible Party

Name FERTI TECHNOLOGIES
Address 560, Chemin Rhéaume, C.P 129
J0L 2J0
Saint-Michel, Québec, Canada
Telephone 450 454-7521
Contact email astpierre@fertitechno.com

1.4 Emergency phone number

Telephone USA National Capital Poison Center: 1 800 222 1222

2. HAZARDS IDENTIFICATION

2.1. The hazard classification of the chemical according to HCS 2012 (US-GHS)

Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 3	H335
Carc 1	H350
STOT RE 1	H372

2.2. Danger symbols



2.3. Signal word

Danger

2.4. Hazard statements

H303 May be harmful if swallowed
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H350 May cause cancer
H372 May cause damage to organs (lungs) through prolonged or repeated exposure if inhaled.

2.5. Precautionary statements

Prevention
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust.
P264 Wash hands thoroughly after handling.

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Response	P270 Do not eat, drink or smoke when using this product.
	P271 Use only outdoors or in a well-ventilated area.
	P280 Wear protective gloves/protective clothing/eye protection/face protection.
	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.
Storage	P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
	P330 Rinse mouth.
	P302+P352 IF ON SKIN: Wash with plenty of water.
	P362+P364 Take off contaminated clothing and wash it before reuse.
	P314 Get medical advice/attention if you feel unwell.
Disposal	P405 Store locked up.
	P501 Dispose of contents/container according to local regulations.

2.6. Description of any hazards not otherwise classified Not applicable.

2.7. % ingredient(s) with unknown acute toxicity Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name		CAS-Nr.	Concentration %
Urea mixture	Carbamide, Carbonyldiamide, Carbamidic Acid) (97.5% - 99.7%)	57-13-6	C = 87.0 %
	Alkalinity as ammonia (150 ppm max)	mixture	
	Methylenediurea (0 % - 2.5 %)	13547-17-6	
	Biuret (0% -1.5%)	108-19-0	
Potassium sulfate		7778-80-5	C = 10.0 %
Oil Dri	Bentonite (Montmorillonite)	1302-78-9	C = 1.8 %
	Quartz (Respirable) < 1 %)	14808-60-7	
HydroFuse Iron		-	C = 0.8 %
HydroFuse Manganese		-	C = 0.1 %

4. FIRST AID MEASURES

4.1 First Aid measures after Inhalation

Following inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided by a qualified operator. Get medical attention if irritation develops and persists.

4.2 First Aid measures after Skin exposure

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Following skin contact Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.

4.3 First Aid measures after Eye exposure

Following eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

4.4 First Aid measures after Ingestion

Following ingestion Induce vomiting, but only if victim is fully conscious. Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. Do not give milk or alcoholic beverages. Call a physician.

4.5 Most important symptoms and effects, both acute and delayed

INHALATION	Product dust may be irritating to eyes, skin and respiratory system.
SKIN	May irritate skin. Prolonged or repeated contact may dry skin and cause irritation.
EYES	May cause serious eye irritation.
INGESTION	If a large quantity has been ingested: Abdominal pain. Diarrhea. Nausea. Vomiting. May cause drowsiness and loss of coordination.

4.6 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable:

Use extinguishing agent suitable for type of surrounding fire. Avoid excessive water to minimize runoff. Prevent firefighter water from entering the environment.

Small fires: Water spray, foam, dry chemical or CO₂

Large fires: Water spray, fog or foam.

Unsuitable: None known.

5.2 Special hazards arising from chemical or mixture during the fire

Container may rupture on heating. Cool closed containers exposed to fire with water spray. Do not allow run-off from firefighting to enter drains or water courses. Explosive reactions with oxidizing agents such as potassium chlorate and/or peroxides. In case of fire hazardous decomposition products may be produced such as:

- Sulphur oxides
- Ammonia
- Carbon monoxide
- Carbon dioxide (CO₂)

5.3 Special Protective Precautions or equipment for firefighters

In the event of fire and/or explosion do not breathe fumes. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment

Wear personal protective equipment.

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- 6.2 Emergency procedures** Unprotected persons must be kept away.
Evacuate personnel to safe areas.
Provide adequate ventilation.
Avoid dust formation.
Avoid breathing dust.
Avoid contact with skin, eyes and clothing.
- 6.3 Methods and materials used for containment** Do not flush into surface water or sanitary sewer system.
Prevent further leakage or spillage if safe to do so.
Do not let product enter drains.
- 6.4 Clean-up procedures** Use mechanical handling equipment.
Clean contaminated surface thoroughly.
Pick up and arrange disposal without creating dust.
Use a suitable vacuum cleaner.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Handle with care.
Wear personal protective equipment.
Use only in well-ventilated areas.
Avoid dust formation.
Provide exhaust ventilation if dust is formed.
Dust must be extracted directly at the point of origin.
Avoid breathing dust.
Avoid contact with skin, eyes and clothing.
- 7.2 Conditions for safe storage** Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers should be protected against falling down.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ACGIH-Threshold Limit Value (TLV)

Exposure limit values of the components:

Respirable crystalline silica dust: ACGIH TLV® = 0,025 mg/m³

Calcium carbonate: ACGIH TLV® = 10 mg/m³

8.2 OSHA-Permissible Exposure Limit (PEL)

Exposure limit values of the components:

Component / CAS	8H (OSHA, PEL)
	mg/m ³
Quartz (SiO ₂) CAS N°: 14808-60-7	Total dust: 30 mg/m ³ / %SiO ₂ +2 (OSHA Z-3) Respirable: 10 mg/m ³ / %SiO ₂ +2 (OSHA Z-3) Respirable: 250 mppcf / %SiO ₂ +5 (OSHA Z-3)
Particulates Not Otherwise Regulated (PNOR) :	Total dust: 15 mg/m ³ (OSHA Z-1) Respirable: 5 mg/m ³ (OSHA Z-1)

8.3 Any other exposure limit used or recommended by chemical manufacturer

Non applicable

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8.4 Engineering Controls

Provide exhaust ventilation if dust is formed. Dust must be extracted directly at the point of origin. Apply technical measures to comply with the occupational exposure limits.

8.5 Personal Protective Equipment

Hand protection: Gloves

Gloves must be inspected prior to use. Replace when worn.

Eye protection: Do not wear contact lenses.

Wear as appropriate: Safety glasses with side-shields

Body protection: Long sleeved clothing

Respiratory protection: A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator use.

Hygiene measures: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use. Keep working clothes separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information of basic physical and chemical properties

Appearance (physical state, colour, etc.)	Multicolored granules, solid
Odour	Odourless
Odour threshold	Not applicable
pH	No data available
Melting point/freezing point;	No data available
Boiling point	Not applicable
Boiling Range	Not applicable
Flash point	No data available
Evaporation rate	Not applicable
Flammability	Not flammable
Upper/lower flammability or explosive limits	No data available
Oxidising properties	No data available

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Vapour pressure	Not applicable
Vapour density	No data available
Density	49 lbs./ft ³
Solubility in water	Partially soluble
Other Solvents	No data available
Partition coefficient (n-octanol/water)	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity	Not reactive under normal storage and handling condition
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerization does not occur.
10.4 Conditions to avoid	Keep at temperatures below 5374 °F (190 °C)
10.5 Incompatible materials	Strong oxidizing agents, Chlorates and Hypochlorites
10.6 Hazardous decomposition products	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

11.1 Measures of Toxicity

Acute toxicity:	Ingredients: Calcium carbonate: Acute toxicity: LC50 Oral (Rat): >5000 mg/kg
Skin corrosion/irritation:	Causes skin irritation
Serious eye damage/irritation:	May cause eye irritation
Respiratory or skin sensitisation:	No data available

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11.2 Listed in IARC or considered carcinogen by NTP or OSHA

Quartz (SiO₂)
CAS N°: 14808-60-7
Group 1 (IARC), Volume 68, 100C

11.3 Further information

This product contains prismatic tremolite (e.g., cleavage fragments) as an impurity. Sufficient exposure to respirable prismatic tremolite dust may cause serious lung problems.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

May be toxic to aquatic life. In sufficient quantity may deplete oxygen required by aquatic life. May cause eutrophication of ponds and lakes.

Urea:

LC50: > 9100 mg/l
Exposure time: 96 h
Species: *Barillius barna*

EC50: 3910 mg/l
Exposure time: 48 hours
Species: Water flea (*Daphnia magna*)

Carbonate calcium:

Toxicity to fish :
LC50: > 10000 mg/l
Exposure time: 96 h
Species: *Oncorhynchus mykiss* (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates:
EC50: > 1000 mg/l (Exposure time: 48 h)
Species: *Daphnia magna* (Water flea)

Silica:

Toxicity to Algae and Crustacea
IC50: 440 mg/L (Exposure time: 72 Hours)
Species: Algae
EC50: 7600 mg/L (Exposure time: 48 Hours)
Species: *Daphnia magna*

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

May release ammonium ions that are toxic to fish. Un-ionized ammonia concentrations above 0.02 mg/l are considered toxic in fresh water. May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen. At extremely high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream. Fish 96 hour LC50, OECD Guidelines 203 (rainbow trout): >86mg/L.

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13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods to employ	Recover or recycle if possible. Properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Empty containers should be taken to an approved waste handling site for recycling or disposal.
13.2 Description of appropriate disposal containers to use	No data available
13.3 Description of the physical and chemical properties that may affect disposal activities	No data available
13.4 Language discouraging sewage disposal.	No data available
13.5 Any special precautions for landfills or incineration activities	No data available

14. TRANSPORT INFORMATION

UN Number
UN proper shipping name
Transport hazard classes
Packing group
Environmental hazards
Guidance On transport in bulk
Special precautions for user

15. REGULATORY INFORMATION

National and/or regional regulatory information of the chemical or mixtures

Inventories:

US. Toxic Substances Control Act: No data available

OSHA Hazards: Carcinogen

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Clean Air Act: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

16. OTHER INFORMATION

Indications on the revision

First edition: 08/10/2015

Addition of all fields as required by regulation (US) HCS 1910.1200 [HCS 2012].

Update of the classification information and update of related sections accordingly.

Abbreviations and acronyms used

ACGIH: American conference of governmental and industrial hygienist

CAS N°.: Chemical Abstract Service Number

CFR: Code of Federal Regulations

EC50: Half maximal effective concentration

HCS: Hazard communication standard

LC50: Half maximal lethal concentration

LD50: Half maximal lethal dose

OSHA: Occupational safety and health administration

STOT SE: Specific target organ toxicity Single exposure

STOT RE: Specific target organ toxicity Repeated exposure

UN N°.: United Nations Number

Methods of evaluation for the classification of mixtures

The classification of the mixture was set based on the regulation (US) HCS 1910.1200 [HCS 2012].

Other information

This information is based on our present knowledge and is provided according to the relevant national regulations. This information is intended as a characterization of the product in order to provide guidance for the relevant safety issues. However, this document does not provide any warranty, expressed or implied, regarding the properties of the product.