We create chemistry

Safety Data Sheet
Libfer® SP

1. Identification

Product identifier used on the label

Libfer® SP

Recommended use of the chemical and restriction on use

Recommended use*: Micronutrient; fertilizers
Unsuitable for use: This material is not intended for use in products for which prolonged contact with mucous membranes, body fluids or abraded skin, or implantation within the human body, is specifically intended, unless the finished product has been tested in accordance with nationally and internationally applicable safety testing requirements. Because of the wide
range of such potential uses, we are not able to recommend this material as safe and effective for such uses and assume no liability for such uses.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Synonyms: Not available. Use: Micronutrient, fertilizers

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Combustible Dust Combustible Dust (1) Combustible Dust

Label elements

Signal Word:
Warning

Hazard Statement:
May form combustible dust concentration in air.

Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

Labeling of special preparations (GHS):
May produce an allergic reaction. Contains: ethylenediamine
This product is not combustible in the form in which it is shipped by the manufacturer, but may form a combustible dust through downstream activities (e.g. grinding, pulverizing) that reduce its particle size.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

CAS Number	Weight %	Chemical name
107-15-3	>= 0.3 - < 1.0%	ethylenediamine
108-95-2	>= 0.3 - < 1.0%	phenol

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air.

If on skin:
Wash thoroughly with soap and water.

If in eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:
Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms: No significant symptoms are expected due to the non-classification of the product.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Symptomatic treatment (decontamination, vital functions).

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, foam, dry powder

Unsuitable extinguishing media for safety reasons:
water jet, carbon dioxide

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
harmful vapours
Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

carbon oxides

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus.

Further information:
Dusty conditions may ignite explosively in the presence of an ignition source causing flash fire.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Avoid the formation and build-up of dust - danger of dust explosion. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition.

Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Information regarding personal protective measures see, section 8.

Environmental precautions

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Nonsparking tools should be used.

7. Handling and Storage

Precautions for safe handling

Breathing must be protected when large quantities are decanted without local exhaust ventilation.

Protection against fire and explosion:
Avoid dust formation. Dust in sufficient concentration can result in an explosive mixture in air. Handle to minimize dusting and eliminate open flame and other sources of ignition. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids (2013 Edition) for safe handling.

Dust explosion class: none.

Conditions for safe storage, including any incompatibilities

Suitable materials for containers: High density polyethylene (HDPE), Polypropylene (PP)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

Advice on system design:
It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Hand protection:
Chemical resistant protective gloves

Eye protection:
Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice. No eating, drinking, smoking or tobacco use at the place of work. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Form:	free flowing fine granules
Odour:	mild
Odour threshold:	not determined
Colour:	red to black

pH value:	8 - 9 (10 g/l)	
Melting point:	> 500 °C (1,013 hPa)	(OECD Guideline 102)
Boiling point:	not applicable	
Flash point:	not applicable	
Flammability:	not highly flammable	
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	460 °C	(BAM)
Vapour pressure:	0.000001 hPa (20 °C)	(OECD Guideline 104)
Density:	1.5892 g/cm3 (20 °C)	(OECD Guideline 109)
Relative density:	1.5892 (20 °C)	(OECD Guideline 109)
Bulk density:	600 - 800 kg/m3	
Vapour density:	The product is a non-volatile solid.	
Partitioning coefficient n-octanol/water (log Pow):	-4.2 (23 °C)	
Self-ignition temperature:	331 °C	(Directive 92/69/EEC, A.16)
Thermal decomposition:	270 °C (VDI 2263, sheet 1, 1.4.1)	
Viscosity, dynamic:	not applicable	
Viscosity, kinematic:	not applicable, the product is a solid	
Particle size:	D90 367 µm	(measured)
Solubility in water:	> 150 - < 203 g/l (23 °C)	
Evaporation rate:	The product is a non-volatile solid.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

10. Stability and Reactivity

Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
Corrosive effects to metal are not anticipated.

Oxidizing properties:
not fire-propagating

Dust explosion class:
none (none)

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
The product is not a dust explosion risk as supplied; however the build-up of fine dust can lead to a risk of dust explosions.

Conditions to avoid
Avoid extreme temperatures.
Avoid dust formation. Avoid deposition of dust.

Incompatible materials
strong oxidizing agents, strong acids, strong bases

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
270 °C (VDI 2263, sheet 1, 1.4.1)

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

Oral

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 401)
Limit concentration test only (LIMIT test). No mortality was observed.

Inhalation

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Type of value: LC50
Species: rat (male/female)
Value: > 4.2 mg/l (OECD Guideline 403)
Exposure time: 4 h
An aerosol was tested.
Limit concentration test only (LIMIT test). No mortality was observed.

Dermal

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg (OECD Guideline 402)
Limit concentration test only (LIMIT test). No mortality was observed.

Assessment other acute effects
No data available.

Irritation / corrosion
Assessment of irritating effects: Not irritating to eyes and skin.

Skin

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Species: rabbit
Result: non-irritant
Method: OECD Guideline 405

Sensitization
Assessment of sensitization: A sensitizing effect on particularly sensitive individuals cannot be excluded. Based on available Data, the classification criteria are not met.

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of sensitization:
Animal studies do not exclude a sensitizing potential. Human data are not available.

Information on: ethylenediamine
Assessment of sensitization:
The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Mouse Local Lymph Node Assay (LLNA)
Species: mouse
Result: ambiguous
Method: OECD Guideline 429

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects. Repeated dermal uptake of the substance did not cause substance-related effects.

Genetic toxicity

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

Carcinogenicity
Assessment of carcinogenicity: None of the components in this product at concentrations greater than 0.1% are listed by IARC; NTP, OSHA or ACGIH as a carcinogen.

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of carcinogenicity: Study scientifically not justified.

Reproductive toxicity
Assessment of reproduction toxicity: No data available.

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of reproduction toxicity: Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Teratogenicity
Assessment of teratogenicity: Not tested

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Symptoms of Exposure

No significant symptoms are expected due to the non-classification of the product.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
LC50 (96 h) > 120 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 92/69/EEC, C.1, static)
Nominal concentration.

Aquatic invertebrates

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
EC50 (48 h) > 120 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
Nominal concentration.

Aquatic plants

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
EC50 (72 h) > 294 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
No observed effect concentration (21 d) 320 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Nominal concentration.

Soil living organisms

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Toxicity to soil dwelling organisms:
No observed effect concentration (14 d) 1,600 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Toxicity to terrestrial plants

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
Study does not need to be conducted.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
OECD Guideline 209 aquatic
activated sludge, domestic/EC10 (3 h): 450 mg/l
Nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts

Not readily biodegradable (by OECD criteria). Poorly biodegradable.

Elimination information

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts
10 - 20 % DOC reduction (28 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments

Information on: Acetic acid, oxo-, sodium salt, reaction products with ethylenediamine and phenol, iron sodium salts

Adsorption to solid soil phase is not expected.

Additional information

Add. remarks environm. fate & pathway:
Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations.

Container disposal:
Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Fertilizer	DSL, CA	released / exempt
Chemical	DSL, CA	released; restriction on quantity / not listed

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2017/07/21

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET