

## Ferro Top

Version: 3.4

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

#### 1.1 Product identifier

Trade name : Ferro Top  
UFI : HKDM-P060-Y00X-V8HQ

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

Use of the Sub-  
stance/Mixture : Fertilizer

#### 1.3 Details of the supplier of the safety data sheet

Company : COMPO EXPERT GmbH  
Kroegerweg 10  
D-48155 Münster  
Telephone : +49 (0) 251 29 79 81 – 000  
Telefax : +49 (0) 251 29 79 81 - 111  
E-mail address of person  
responsible for the SDS : info@compo-expert.com

#### 1.4 Emergency telephone number

Quality / Safety / Environment  
Telephone: +49 (0) 2151 - 579 - 0

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### SECTION 2: Hazards identification


#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 : H302: Harmful if swallowed.  
Skin irritation, Category 2 : H315: Causes skin irritation.  
Eye irritation, Category 2 : H319: Causes serious eye irritation.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :   
Signal word : Warning

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Hazard statements	: H302 H315 H319	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Precautionary statements	: P102 <b>Prevention:</b> P280 <b>Response:</b> P301 + P312 P305 + P351 + P338 P310 P302 + P352 <b>Disposal:</b> P501	Keep out of reach of children. Wear protective gloves/ protective clothing/ eye protection/ face protection. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF IN EYES: Rinse cautiously with wa- ter for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN: Wash with plenty of soap and water. Dispose of contents/ container to an ap- proved waste disposal plant.

### 2.3 Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Fertilizer from different inorganic salts.

#### Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
iron sulphate	7720-78-7 231-753-5 01-2119513203-57- XXXX	Acute Tox. 4; H302 Eye Irrit. 2; H319 Skin Irrit. 2; H315	>= 10 - < 30
ammonium nitrate	6484-52-2 229-347-8 01-2119490981-27- XXXX	Ox. Sol. 3; H272 Eye Irrit. 2; H319	>= 1 - < 15

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

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### 4.1 Description of first aid measures

- General advice : Avoid contact with skin, eyes and clothing.
- If inhaled : Move to fresh air.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and plenty of water.  
After contact with skin, wash immediately with plenty of water.  
If skin irritation persists, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids.  
Call a physician immediately.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Obtain medical attention.

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

- Symptoms : Irritation

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : The product is not flammable.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire-fighting : Heating or fire can release toxic gas.

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : The product itself does not burn.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Avoid dust formation.  
No dangerous materials are set free.

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### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Sweep up or vacuum up spillage and collect in suitable container for disposal.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid dust formation.  
Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.  
Keep away from sources of ignition - No smoking.

Hygiene measures : Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place.

Further information on storage conditions : Protect from moisture.

Storage class (TRGS 510) : 11, Combustible Solids

### 7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
iron sulphate	7720-78-7	TWA	1 mg/m <sup>3</sup> (Iron)	GB EH40

We are not aware of any national exposure limit.

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

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Substance name	End Use	Exposure routes	Potential health effects	Value
iron sulphate	Workers	Skin contact	Acute effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Inhalation	Acute effects, systemic effects	9,9 mg/m <sup>3</sup>
	Workers	Skin contact	Chronic effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Inhalation	Chronic effects, systemic effects	9,9 mg/m <sup>3</sup>
	Consumers	Ingestion	Acute effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Skin contact	Acute effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Acute effects, systemic effects	2,5 mg/m <sup>3</sup>
	Consumers	Ingestion	systemic effects, Chronic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Skin contact	Chronic effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Chronic effects, systemic effects	2,5 mg/m <sup>3</sup>
ammonium nitrate	Workers	Inhalation	Long-term systemic effects	36 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	5,12 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	2,56 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	8,9 mg/m <sup>3</sup>
	Consumers	Skin contact, Ingestion	Long-term systemic effects	2,56 mg/kg bw/day

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

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Substance name	Environmental Compartment	Value
iron sulphate	Water	
Remarks:	This product has no known ecotoxicological effects.	
	Behaviour in waste water treatment plants	2483 mg/l
	Fresh water sediment	246000 mg/kg
	Marine sediment	246000 mg/kg
	Soil	276000 mg/kg
ammonium nitrate	Sewage treatment plant	18 mg/l

### 8.2 Exposure controls

#### Engineering measures

Provide adequate ventilation.

#### Personal protective equipment

Eye protection : Wear suitable gloves and eye/face protection.

Hand protection

Material : Protective gloves

Glove length :

Remarks : Protective gloves Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Skin and body protection : Protective suit

Respiratory protection : respiratory protection only if aerosol or dust is formed.

Protective measures : Handle in accordance with good industrial hygiene and safety practice.

#### Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance : granular

Colour : light brown

Odour : characteristic

pH : No data available

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Melting point/range	: Not applicable
Boiling point/boiling range	: Not applicable
Flash point	: Not applicable
Evaporation rate	: Not applicable
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: Not applicable
Relative vapour density	: Not applicable
Relative density	: No data available
Solubility(ies)	
Water solubility	: partly soluble
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: Not applicable
Viscosity	
Viscosity, dynamic	: Not applicable
Oxidizing properties	: Not considered an oxidizing substance

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Hazardous decomposition products formed under fire conditions.

### 10.4 Conditions to avoid

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Conditions to avoid : Exposure to moisture  
No decomposition if stored and applied as directed.

### 10.5 Incompatible materials

Materials to avoid : Incompatible with strong acids and oxidizing agents.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides  
Sulphur trioxide  
ammonia

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute oral toxicity : Remarks: This information is not available.

Acute dermal toxicity : Remarks: No data available

##### Components:

##### **iron sulphate:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 401  
  
LD50 (Rat): 657 - 4.390 mg/kg  
Method: Calculation method  
  
Acute toxicity estimate: 500 mg/kg  
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : LD50 (Rat): > 1.992 mg/kg  
Method: Converted acute toxicity point estimate

##### **ammonium nitrate:**

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l  
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 402



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### Skin corrosion/irritation

**Product:**

Remarks: May irritate skin.

**Components:**

**iron sulphate:**

Method: OECD Test Guideline 404

Result: Skin irritation

Remarks: Irritating to skin and mucous membranes

**ammonium nitrate:**

Species: Rabbit

Method: OECD Test Guideline 404

Result: non-irritant

### Serious eye damage/eye irritation

**Product:**

Remarks: Severe eye irritation

**Components:**

**iron sulphate:**

Method: OECD Test Guideline 405

Result: Eye irritation

**ammonium nitrate:**

Species: Rabbit

Method: OECD Test Guideline 405

Result: Irritant

### Respiratory or skin sensitisation

**Product:**

Result: non-sensitizing

**Components:**

**iron sulphate:**

Method: OECD TG 429

Result: Did not cause sensitisation on laboratory animals.

**ammonium nitrate:**

Result: Does not cause skin sensitisation.

### Germ cell mutagenicity

**Product:**

Genotoxicity in vitro

: Remarks: Contains no hazardous ingredients according to

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GHS

### Components:

#### **ammonium nitrate:**

Genotoxicity in vitro : Method: OECD Test Guideline 471  
Result: negative

### **Carcinogenicity**

#### Product:

Remarks: Contains no ingredient listed as a carcinogen

### Components:

#### **iron sulphate:**

Carcinogenicity - Assessment : Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

#### **ammonium nitrate:**

Species: Rat

Remarks: Animal testing did not show any carcinogenic effects.

### **Reproductive toxicity**

#### Product:

Effects on fertility :  
Remarks: Contains no ingredient listed as toxic to reproduction

Effects on foetal development : Remarks: Contains no ingredient listed as toxic to reproduction

### Components:

#### **ammonium nitrate:**

Effects on fertility : Species: Rat

Remarks: Animal testing did not show any effects on fertility.

Effects on foetal development : Species: Rat  
Remarks: Did not show teratogenic effects in animal experiments.

### **STOT - single exposure**

#### Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

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### STOT - repeated exposure

#### Product:

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

#### Components:

##### **iron sulphate:**

Remarks: No known effect.

### Repeated dose toxicity

#### Components:

##### **iron sulphate:**

Species: Rat

NOAEL: 284 - 324 mg/kg

Application Route: Oral

Exposure time: 90 d

Remarks: Information given is based on data obtained from similar substances.

Species: Rat

NOAEL: 100 mg/kg

Application Route: Oral

Exposure time: 49 d

Application Route: by inhalation

Remarks: This information is not available.

Application Route: Dermal

Remarks: This information is not available.

##### **ammonium nitrate:**

Species: Rat

NOAEL: > 1.500 mg/kg

Application Route: Oral

Exposure time: 28 d

Species: Rat

NOAEL: = 256 mg/kg

Application Route: Oral

Exposure time: 52 w

Method: OECD Test Guideline 453

Species: Rat

NOAEL: >= 185 mg/kg

Application Route: by inhalation

Exposure time: 2 w

Method: Repeated Dose Inhalation Toxicity: 28-day or 14-day Study.

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### Further information

**Product:**

Remarks: Avoid moisture.

Health injuries are not known or expected under normal use.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : LC50 : > 100 mg/l  
Remarks: No data available

Remarks: Calculation method

Toxicity to daphnia and other : LC50 : > 100 mg/l  
aquatic invertebrates Remarks: No data available

Remarks: Calculation method

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 100 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

**Components:**

**iron sulphate:**

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

**ammonium nitrate:**

Toxicity to fish : LC50 (Fish): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia (water flea)): 490 mg/l  
aquatic invertebrates Exposure time: 48 h

LC50 : 490 mg/l

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l  
Exposure time: 10 d

### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: The product works in the soil as fertilizer and is diminished in a few weeks.

**Components:**

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### **iron sulphate:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

### **ammonium nitrate:**

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

### **Product:**

Bioaccumulation : Remarks: No data available

### **Components:**

#### **iron sulphate:**

Bioaccumulation : Remarks: Accumulation in aquatic organisms is unlikely.

#### **ammonium nitrate:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: -3,1

## 12.4 Mobility in soil

### **Product:**

Mobility : Remarks: No data available

### **Components:**

#### **iron sulphate:**

Distribution among environmental compartments : Medium: Soil  
Remarks: immobile

## 12.5 Results of PBT and vPvB assessment

### **Product:**

Assessment : Remarks: Not applicable

### **Components:**

#### **iron sulphate:**

Assessment : This substance is not considered to be very persistent and very bioaccumulating (vPvB).. This substance is not considered to be persistent, bioaccumulating and toxic (PBT)..

## 12.6 Other adverse effects

### **Product:**

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Additional ecological information : slightly water endangering

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Product : Fertilizer  
Check if agriculture use is possible.  
Do not flush into surface water or sanitary sewer system.  
Do not dispose of with domestic refuse.

Contaminated packaging : Offer rinsed packaging material to local recycling facilities.  
Suitable cleaning agents  
Water

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### SECTION 14: Transport information

#### 14.1 UN number

Not regulated as a dangerous good

#### 14.2 UN proper shipping name

Not regulated as a dangerous good

#### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

#### 14.4 Packing group

Not regulated as a dangerous good

#### 14.5 Environmental hazards

Not regulated as a dangerous good

#### 14.6 Special precautions for user

Not applicable

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks : Not relevant

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### SECTION 15: Regulatory information

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

Water contaminating class (Germany) : WGK 1 slightly water endangering

#### 15.2 Chemical Safety Assessment

Not relevant

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### SECTION 16: Other information

#### Full text of H-Statements

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

#### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Eye Irrit.	: Eye irritation
Ox. Sol.	: Oxidizing solids
Skin Irrit.	: Skin irritation

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardization; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

#### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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