

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

1.1 Product identifier

Trade name: Iron Man

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

Application of the substance / the mixture Fertiliser

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

TURF Handels GmbH

Am Hartboden 48

A-8101 Gratkorn

T: +43 3124 29064

F: +43 3124 29062

Further information obtainable from: Email: office@turf.at

1.4 Emergency telephone number:

+43 3124 29064

Available during office hours:

Mo - Th: 8 a.m. - 4.30 p.m.

Fr: 8 a.m. - 2.30 p.m.

Call the national emergency number!

* **SECTION 2: Hazards identification**

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Eye Irrit. 2 H319 Causes serious eye irritation.

Additional information: For the wording of the hazard categories, see section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS07

Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P264 Wash thoroughly after handling.

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P280 Wear eye protection / face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.

vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.



*** SECTION 3: Composition/information on ingredients**

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

[% (w/w)]

CAS: 7782-63-0 EINECS: 231-753-5 Index number: 026-003-01-4	ferrous sulfate heptahydrate  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319 Specific concentration limit: Skin Irrit. 2; H315: C ≥ 25 %	10 - 20%
CAS: 77-92-9 EINECS: 201-069-1 Index number: 607-750-00-3 RTECS: GE 7350000 Reg.nr.: 01-2119457026-42-XXXX	Citric acid  Eye Irrit. 2, H319; STOT SE 3, H335	1 - 10%

Additional information: For the wording of the listed hazard phrases refer to section 16.

*** SECTION 4: First aid measures**

4.1 Description of first aid measures

General information:

In case of discomfort or doubt, seek medical advice.

If unconscious, use a stable lateral position and do not administer anything through mouth.

After inhalation:

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Seek medical treatment in case of complaints.

After eye contact:

Rinse opened eye for several minutes under running water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Seek medical treatment.

After swallowing:

Rinse mouth.

Do NOT induce vomiting.

If the patient is conscious, make him drink water.

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Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

* **SECTION 5: Firefighting measures**

5.1 Extinguishing media

Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

CO_x, SO_x

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information

Cool endangered receptacles with water spray.

Collect contaminated fire fighting water separately. It must not enter the sewage system.

* **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures

Restricted access to the affected area until cleaning work is completed.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid contact with skin and eyes.

Do not breathe vapour/spray.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding, inert material (sand, diatomite, acid binders, universal binders).

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

* **SECTION 7: Handling and storage**

7.1 Precautions for safe handling

Ensure good ventilation.

Keep receptacles tightly sealed.

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- Avoid contact with skin and eyes.
- Prevent formation of aerosols.
- Avoid breathing mist/vapours/spray.
- Use personal protective equipment as required.
- Observe protective measures and safety instructions.

Information about fire - and explosion protection: No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

- Store in a cool place.
- Store receptacle in a well ventilated area.
- Store in accordance with local/regional/national/international regulations.

Information about storage in one common storage facility:

- Store away from foodstuffs.
- Store away from feeding stuff.
- Store away from oxidising agents.

Further information about storage conditions:

- Keep container tightly sealed.
- Protect container from damage.
- Protect from frost.
- Protect from heat and direct sunlight.
- Protect from moisture.

Recommended storage temperature: room temperature

Storage class: 12

7.3 Specific end use(s) No further relevant information available.

* **SECTION 8: Exposure controls/personal protection**

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7782-63-0 ferrous sulfate heptahydrate

LEP (Spain)	Long-term value: 1 mg/m ³ c, como Fe
WEL (Great Britain)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ as Fe

CAS: 77-92-9 Citric acid

AGW (Germany)	Long-term value: 2 E mg/m ³ 2(I);DFG, Y
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Regulatory information

- LEP (Spain): Límites de exposición profesional para agentes químicos
- WEL (Great Britain): EH40/2020
- AGW (Germany): TRGS 900

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DNELs		
CAS: 7782-63-0 ferrous sulfate heptahydrate		
Oral	Long-term exposure - systemic effects	0.28 mg/kg bw/d (consumer)
	short-term exposure - systemic effects	20 mg/kg bw (consumer)
Dermal	Long-term exposure - systemic effects	1.4 mg/kg bw/d (consumer)
		2.8 mg/kg bw/d (workers)

PNECs No data available.

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls

No further data; see section 7.

Technical measures and the use of suitable working methods take priority over the use of personal protective equipment.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Do not eat or drink while working.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Take off contaminated clothing and wash it before reuse.

Prevent formation of aerosols.

Avoid breathing mist/vapours/spray.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye wash bottles and emergency showers should be provided in the immediate area near the workplace.

Respiratory protection:

Normally not required.

If vapours/aerosols and/or inadequate ventilation are present, respiratory protection must be worn.

Hand protection



Protective gloves

EN 374

The glove material has to be impermeable and resistant to the product/ the substance/ the mixture.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Material of gloves

PVC gloves

Recommended thickness of the material: ≥ 0.5 mm

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The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Penetration time of glove material

Recommended: protective index 6, corresponding 480 minutes of permeation time according to EN 374

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection



Tightly sealed goggles

EN 166

Body protection: Protective work clothing

Environmental exposure controls Do not allow to enter sewers/ surface or ground water.

* **SECTION 9: Physical and chemical properties**

9.1 Information on basic physical and chemical properties

General Information

Physical state	Fluid
Colour:	brownish - green
Odour:	Characteristic
Odour threshold:	No information available.
Melting point/freezing point:	-1 °C
Boiling point or initial boiling point and boiling range	> 100 °C
Flammability	No information available.
Lower and upper explosion limit	
Lower:	No information available.
Upper:	No information available.
Flash point:	No information available.
Decomposition temperature:	No information available.
pH at 20 °C	2 – 3.5
Viscosity:	
Kinematic viscosity	No information available.
Dynamic:	No information available.
Solubility	
water:	miscible
Partition coefficient n-octanol/water (log value)	

77-92-9	Citric acid	-1,6 log Kow
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Vapour pressure: Not determined.

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Density and/or relative density

Density at 20 °C: 1.18 – 1.22 g/cm³

Vapour density No information available.

9.2 Other information

Appearance:

Form: Fluid

Important information on protection of health and environment, and on safety.

Ignition temperature: No information available.

Explosive properties: Product does not present an explosion hazard.

Change in condition

Softening point/range

Oxidising properties No information available.

Evaporation rate No information available.

Information with regard to physical hazard classes

Explosives void

Flammable gases void

Aerosols void

Oxidising gases void

Gases under pressure void

Flammable liquids void

Flammable solids void

Self-reactive substances and mixtures void

Pyrophoric liquids void

Pyrophoric solids void

Self-heating substances and mixtures void

Substances and mixtures, which emit flammable gases in contact with water void

Oxidising liquids void

Oxidising solids void

Organic peroxides void

Corrosive to metals void

Desensitised explosives void

* **SECTION 10: Stability and reactivity**

10.1 Reactivity No further relevant information available.

10.2 Chemical stability No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions No further relevant information available.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Protect from heat and direct sunlight.

10.5 Incompatible materials:

strong oxidizing agents

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strong reducing agents

10.6 Hazardous decomposition products:

No decomposition if used and stored according to specifications.

* **SECTION 11: Toxicological information**

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

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	2,500 – 5,000 mg/kg (rat)
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CAS: 7782-63-0 ferrous sulfate heptahydrate

Oral	LD50	500 mg/kg (rat)
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Dermal	LD50	> 2,000 mg/kg (rat)
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CAS: 77-92-9 Citric acid

Oral	LD50	5,400 mg/kg (mouse)
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Dermal	LD50	> 2,000 mg/kg (rat)
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Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Causes serious eye irritation.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity Based on available data, the classification criteria are not met.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

* **SECTION 12: Ecological information**

12.1 Toxicity

Aquatic toxicity:

CAS: 77-92-9 Citric acid

LC50 (48 h)	440 mg/l (fish)
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12.2 Persistence and degradability

77-92-9 Citric acid	97 % (28 d)
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12.3 Bioaccumulative potential

77-92-9 Citric acid	-1,6 log Kow
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12.4 Mobility in soil No further relevant information available.

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12.5 Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.

vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Additional ecological information:

General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow product to reach ground water, water course or sewage system.

*** SECTION 13: Disposal considerations**

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Only dispose of product residues via authorised companies according to local legislation.

European waste catalogue

Notes: The European Waste Catalogue (EWC) classifies waste materials and categorises them according to what they are and how they were produced. This may cause other classifications. The final decision belongs to the last user.

02 01 08*	agrochemical waste containing hazardous substances
HP4	Irritant - skin irritation and eye damage

Uncleaned packaging:

Recommendation:

Dispose of packaging according to regulations on the disposal of packagings.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

*** SECTION 14: Transport information**

14.1 UN number or ID number

ADR/RID/ADN, IMDG, IATA

not regulated

14.2 UN proper shipping name

ADR/RID/ADN, IMDG, IATA

not regulated

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA

Class

not regulated

14.4 Packing group

ADR/RID/ADN, IMDG, IATA

not regulated

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

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UN "Model Regulation": not regulated

* **SECTION 15: Regulatory information**

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

* **SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Training hints

Before handling, storage or use for the first time, employees must be informed about the properties of the substance and about measures taken to ensure safety and environmental protection.

Classification according to Regulation (EC) No 1272/2008

Serious eye damage/irritation	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
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Department issuing SDS:

UmEnA GmbH

<http://umena.at>

Email: office@umena.at

Date of previous version: 18.04.2018

Version number of previous version: 1.0

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

*** Data compared to the previous version altered.**