

VITAX SAFETY INFORMATION SHEET

Date of Issue: February 2004

Revision: Nov 2015

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

- 1.1 Name of Product:** TURF TONIC 2.1:0:2.5+3%Fe
1.2 Use of the Substance/Preparation: Fertiliser
1.3 Manufacturer/Distributor: Vitax Limited, Owen Street, Coalville, Leicestershire LE67 3DE
Tel: +44 (0) 1530 510060
1.4 Emergency Contact: Tel: +44 (0) 1530 510060 (Office Hours)

2. HAZARDS IDENTIFICATION

- 2.1 Classification:** not classified.
2.2 Label elements:
Signal Word: none
Hazard Statements: none
Precautionary Statements: none
2.3 Other hazards: This product contains less than 1% quartz (respirable). Depending on the type of handling and use (e.g. grinding, drying), airborne respirable crystalline silica (quartz cristobalite) may be generated. Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable crystalline silica dust should be monitored and controlled.
This product should be handled with care to avoid dust generation.

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.2 Mixtures:** Compound mineral fertiliser

Chemical Name	CAS-No./ EINECS-No.	Symbol(s) and phrases	Precautionary statements:	Concentration
Ferrous Sulphate monohydrate	17375-41-6/ 231-753-5	GHS07 Acute Tox. 4 H302: Harmful if swallowed Skin Irrit. 2 H315: Causes skin irritation Eye Irrit. 2 H319: Causes serious eye irritation	P273 P280 P301/312 P302/352 P305/351/338 P313	>5% C <10%

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Eye contact – Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact – Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse.

Ingestion – wash out mouth with water and seek medical advice.

Inhalation – remove to fresh air.

4.2 Most important symptoms and effects, both acute and delayed

Skin Contact: Repeated and/or prolonged contact may cause irritation.

Eye Contact: Dusty/gritty material expected to cause irritation to eyes.

Ingestion: May cause irritation of gastro intestinal tract leading to nausea, vomiting, abdominal pain and diarrhoea.

Inhalation: High concentration of dust may be irritating to trachea and lungs.

4.3 Indication of immediate medical attention and special treatment needed:

none

5. FIRE FIGHTING MEASURES

Non flammable

- 5.1 Extinguishing Media:** If involved in a fire use water spray, CO₂ or dry powder.

5.2 Special hazards arising from substance or mixture:

In intense heat, product decomposition will release toxic nitrogen and sulphur oxide fumes.

- 5.3 Advice for firefighters:** Wear self-contained breathing apparatus in confined spaces. Contain contaminated run-off.

6. ACCIDENTAL RELEASE MEASURES

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- 6.1 Personal Precautions:** Ensure adequate ventilation. Wear protective gloves and eye protection. Wash hands and exposed skin after handling.
- 6.2 Environmental precautions:** Do not allow to enter drains or sewers.
- 6.3 Methods and material for containment and cleaning up:** Sweep up and shovel product or other means and place in container for reuse (preferred) or disposal.
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7. HANDLING & STORAGE

- 7.1 Precautions for Safe Handling:** Ensure good ventilation at workplace. Ensure good hygiene practices are observed. Do not eat, drink or smoke when handling this product. Do not breathe dust. Avoid contact with skin and eyes. Ensure workplace exposure limits are observed. Do not block stack pallets.
- 7.2 Conditions for Safe Storage:** Store in original containers, tightly closed in a secure, well ventilated, cool but frost-free, dry area. Store clear of foodstuffs and in a separate stack from herbicides.
- 7.3 Specific end use:** Fertiliser.
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8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

- 8.1 Control parameters:** Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust, respirable crystalline silica dust) The OEL (Occupational Exposure Limit) for respirable crystalline silica dust is 0.1mg/m³ in the United Kingdom, measured as an 8 hour TWA (Time Weighted Average). Nuisance dust: Inhalable dust 10 mg/m³ // Respirable dust 4 mg/m³

DNELs

Figures stated are for ferrous sulphate.7H₂O

Worker

Acute systemic effects, dermal: (FeSO₄*7H₂O) 2.8 mg/kg/d
Acute systemic effects, inhalative: (FeSO₄*7H₂O) 9.9 mg/m³
Systemic long-term effects, dermal: (FeSO₄*7H₂O) 2.8 mg/kg/d
Systemic long-term effects, inhalative: (FeSO₄*7H₂O) 9.9 mg/m³

Consumer

Acute systemic effects, oral: (FeSO₄*7H₂O) 1.4 mg/kg/d
Acute systemic effects, dermal: (FeSO₄*7H₂O) 1.4 mg/kg/d
Acute systemic effects, inhalative: (FeSO₄*7H₂O) 2.5 mg/m³
Systemic long-term effects, oral: (FeSO₄*7H₂O) 1.4 mg/kg/d
Systemic long-term effects, dermal: (FeSO₄*7H₂O) 1.4 mg/kg/d
Systemic long-term effects, inhalative: (FeSO₄*7H₂O) 2.5 mg/m³

PNECs

The PNECs given in this section were derived based on the concentration which would cause a 10% increase above typical natural background levels of iron in soil and sediment. Thus the respective PNEC is equal to 110% of the typical natural background level of iron.

Water

Iron is an essential trace element for fish, aquatic invertebrates and plants. A direct toxicity could not be demonstrated in tests. Therefore no PNEC was derived.

Sewage treatment plants (STP)

PNEC STP Fe: 500 mg/l;

Sediment

PNEC Sediment (freshwater): Fe: 49.5 g/kg;
PNEC Sediment (marine water): Fe: 49.5 g/kg;
Soil PNEC soil: Fe: 55.5 g/kg;

Oral (food chain)

Iron is an essential trace element for fish, aquatic invertebrates and plants. A direct toxicity could not be demonstrated in tests. Therefore no PNEC was derived

8.2 Exposure Controls:

General protective and hygienic measures:

The general personal protection measures of the chemical industry apply. The usual precautionary measures should be adhered to in the handling of the chemicals. Wear protective gloves and eye protection. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke when handling this product.

Breathing equipment:

Dust Mask FFP2 Not required if all workplace limits are observed and good ventilation is ensured.

Protection of hands:

Requirements according to EN 420. Check protective gloves prior to each use for their proper condition. Preventive skin protection by use of skin protecting agents is recommended.

Material of gloves:

Polychloroprene recommended.

Penetration time of glove material:

Protective gloves should be replaced at first sign of wear

Eye protection:

Tightly sealed safety glasses.

Body protection:

Protective work clothing.

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9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	grey/ brown microgranule
Odour	slight metallic
pH	3.9 - 1% Dilution in water (CIPAC Method MT75.3)
Boiling point	decomposes above 200-250°C
Melting point	N/A
Flash point	N/A
Flammability	Mixture is not classed as flammable (EEC A10)
Autoflammability	N/A
Explosivity	Explosive properties are not expected (EEC A14)
Oxidising properties	Oxidising properties are not expected (EEC A17)
Vapour Pressure	N/A
Density	Pour Density – ca. 1.09 g/ml, Tap Density ca.1.19mg/ml (CIPAC 186)
Solubility	contains >50% insoluble material
9.2 Other Information:	none

10. STABILITY & REACTIVITY

10.1 Reactivity:	no data
10.2 Stability:	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Reacts with strong alkalis to release ammonia
10.4 Conditions to Avoid:	Store away from heat
10.5 Incompatible materials:	strong oxidising agents.
10.6 Hazardous Decomposition Products:	Decomposes at high temperatures producing toxic nitrogen and sulphur oxide fumes.

11. TOXICOLOGICAL INFORMATION

Not classified as harmful by inhalation, ingestion or in contact with skin. Ingestion of large quantities may cause gastric disturbance.

Acute toxicity

LD/LC50 values that are relevant for classification:

Data from the Key Studies for iron sulphates and iron chlorides:

Oral LD50	132 - 881 mg Fe/kg (rat) (OECD 423)
Dermal	LD50 >400 mg Fe/kg (rat) (OECD 402)
Inhalative	LC50 no relevant data available

Data for ferrous sulphate heptahydrate:

Oral LD50	1185 mg/kg (rat)
LD50	>2000 mg/kg (rat) (OECD 401)
Dermal LD50	>1992 mg/kg (rat) derived)
Inhalative LC50	no relevant data available

Primary irritant effect: by calculation

on the skin:	not an irritant.
on the eye:	not an irritant.
Sensitization:	not a sensitizer.

Subacute to chronic toxicity:

Data of the Key Studies for iron sulphates and iron chlorides:

Oral NOAEL	57 - 65 mg Fe/kg/d (rat, 90 days) (not according to OECD)
Dermal NOAEL	no relevant data available
Inhalative NOAEC	no relevant data available

Data for ferrous sulphate heptahydrate

Oral NOAEL	284 - 324 mg/kg/d (rat, 90 days) (derived)
NOAEL	100 mg/kg/d (rat, 49 days)
Dermal NOAEC	no relevant data available
Inhalative NOELL	no relevant data available

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

There are no indications of CMR effects.

Specific target organ toxicity (STOT)

No specific target organ toxicity according to the criteria defined in Regulation (EC) No. 1272/2008.

Aspiration hazard

No data, not an aspiration hazard.

12. ECOLOGICAL INFORMATION

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12.1 Toxicity: Mixture is classified for environmental effects in accordance with regulation 1272/2008 as amended.

Iron sulphate

Species	Time scale	Endpoint
Rat	Acute	1185mg FeSO ₇ H ₂ O/kg bw
<i>Colin virginianus</i>	Acute	>1230.75 mg FeSO ₄ /kg bw/day
<i>Anas platyrhynchos</i>	Short-term	>683.1 mg FeSO ₄ /kg bw/day
<i>Oncorhynchus mykiss</i>	96 hr (flow-through)	45.1 mg FeSO ₄ /L
<i>Oncorhynchus mykiss</i>	21 d (semi static)	3.4 mg FeSO ₄ /L
<i>Daphnia magna</i>	48-hour (semi-static)	31.2 3.4 mg FeSO ₄ /L
<i>Daphnia magna</i>	21d (semi-static)	Less than 1.08 3.4 mg FeSO ₄ /L
Earthworm	Acute 14 days	4376 mg FeSO ₄ /kg soil > LC50 > 3829 mg FeSO ₄ /kg soil

Endpoints taken from EFSA peer review of Iron Sulphate (2012;10(1)2521)

12.2 Persistence and degradability: Iron sulphate is an inorganic salt that dissociates in the soil solution to iron- and sulphate-ions. Both iron and sulphate-ions are naturally occurring components of terrestrial ecosystems

12.3 Bioaccumulative potential: no data

12.4 Mobility in soil: Iron sulphate - Mobile in soils and readily leached (Kf 2.6 – 21.1)
Under typical aerobic environmental conditions (pH 5 – pH 9), the highly soluble Fe (II) salts will be rapidly oxidised to less soluble Fe (III) oxides and hydroxides. Due to the low solubility of the oxide/hydroxide forms, the concentration of dissolved Fe in the soil solution is rather low (< 0.01 - 0.5 mg/L).

12.5 Results of PBT and vPvB: not classified.

12.6 Other adverse data: no data

13. DISPOSAL CONSIDERATIONS

Disposal route should not permit contamination of groundwater.

13.1 Waste treatment methods: Dispose of waste through a reputable waste disposal contractor in accordance with the Environmental Protection Act 1990.

14. TRANSPORT INFORMATION

14.1 UN number: Product is unclassified for transport

14.2 UN proper shipping name: Product is unclassified for transport

14.3 Transport hazard: Product is unclassified for transport

14.4 Packing group: Product is unclassified for transport

14.5 Environmental hazards: Product is unclassified for transport

14.6 Special precautions for user: No information available

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

Applicable for Maritime bulk transport only. Check with carrier.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific to this substance:

This substance is classified and labelled in accordance with EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended) and the EC Fertiliser Regulations 2003.

15.2 Chemical Safety Assessment not undertaken for this material

16. OTHER INFORMATION

Reason for revision: MSDS re-formatted in-line with regulation 453/2010 all sections affected. Replaces MSDS dated June 2009.

Hazard statements in full:
H302: Harmful if swallowed
H315: Causes skin irritation
H319: Causes serious eye irritation

Liability The product label provides information on the use of the product: do not use otherwise, unless you have assessed any potential hazard involved and the safety measures required. Prepared for Health and Safety purposes from the best knowledge available at the time of printing.