

3. Composition/Information on Ingredients

3.2. Mixtures

Compound fertiliser containing 10% nitrogen, 20% potassium oxide, 1.6% iron, 2.4% magnesium

Ingredient	CAS/EINECS	Classification	% w/w
Ferrous Sulphate Heptahydrate	7720-78-7	Acute tox 4 H302 Skin irr 2 H315 Eye irr 2 H319	5-10%

The full text for all Hazard Statements are displayed in Section 16

4. First Aid Measures

4.1. Description of first aid measures

- Eye contact – Immediately rinse with clean water for 15 minutes. Seek medical attention if symptoms persist or develop.
- Skin contact – Wash exposed areas of skin with soap and water following use. Wash all contaminated clothing 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

- Eye Contact: Prolonged or repeated exposure may cause severe irritation. May cause severe eye irritation.
- Skin Contact: Repeated and/or prolonged contact may cause irritation.
- Ingestion: Based on components, product is considered to present little hazard by oral exposure.
- Inhalation: Unlikely to cause harmful effects under normal handling and use.

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

- None
- Additional medical guidance is available to doctors from the National Poisons Information Service.

5. Fire-Fighting Measures

Non flammable

5.1. Extinguishing media

Use foam, carbon dioxide, dry powder, sand. The mixture is not classified as flammable. As such extinguishing media appropriate for surrounding materials should be chosen.

5.2. Special hazards arising from the substance or mixture

Possible irritant fumes arising from product decomposition.

5.3. Advice for firefighters

Contain spread of extinguishing fluids. Wear self-contained breathing apparatus in confined spaces.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

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 use other means and place in container for reuse (preferred) or disposal.

7. Handling and 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, including any incompatibilities

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(s)

Fertiliser

8. Exposure controls/ Personal protection

8.1. Control parameters Occupational exposure limits

Occupational Exposure Limits

Follow workplace regulatory exposure limits for all types of airborne dust (e.g. total dust, respirable dust). Nuisance dust:

Inhalable dust 10 mg/m³, Respirable dust 4 mg/m³

Ammonium Sulphate, Long-term Exposure Limit (LTEL)

Long-term Exposure Limit (8 hour TWA)	10	mg/m ³
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Sand (Silica Dust respirable), Long-term Exposure Limit (LTEL)	0.1	mg/m ³
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Long-term Exposure Limit (8 hour TWA) WEL	0.1	mg/m ³
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Dolomite, Long-term Exposure Limit (LTEL)	10	mg/m ³ inhalable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Calmag Magnesium Oxide, Long-term Exposure Limit (LTEL)	10	mg/m ³ inhalable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Urea, Long-term Exposure Limit (LTEL)	10	mg/m ³ inhalable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Potash (CAS 7447-40-7), Desired No Effect Level (DNEL)	10	mg/m ³ inhalable dust
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Long-term Exposure Limit (8 hour TWA) WEL	4	mg/m ³ respirable dust
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Potash (CAS 7447-40-7), Predicted No Effect Concentration (PNEC)	0.047	mg/L
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Fresh water	0.047	mg/L
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Marine water	0.047	mg/m ³
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Ferrous Sulphate Heptahydrate (CAS 7782-63-0), Desired No Effect Level (DNEL)	2.8	mg/kg/day
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Worker	9.9	mg/m ³
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Acute systemic effects dermal:	2.8	mg/kg/day
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Acute systemic effects inhalative:	9.9	mg/m ³
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Systemic long-term effects dermal:	2.8	mg/kg/day
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Systemic long-term effects inhalative:	9.9	mg/m ³
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General Population	1.4	mg/kg/day
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Acute systemic effects oral:	1.4	mg/kg/day
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SAFETY DATA SHEET

SYMBIO 10-0-20 + 2.4Mg + 1.6Fe

SDS COMPLETED 2ND SEPTEMBER 2015

UPDATED: 21ST JANUARY 2020

VERSION 01

REVISION NUMBER: 1

Acute systemic effects dermal:	1.4	mg/kg/day
Acute systemic effects inhalative:	2.5	mg/m ³
Systemic long-term effects oral:	1.4	mg/kg/day
Systemic long-term effects dermal:	1.4	mg/kg/day
Systemic long-term effects inhalative:	2.5	mg/m ³

Ferrous Sulphate Heptahydrate (CAS 7782-63-0), Predicted No Effect Concentration (PNEC)

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 oil 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, Sediment and Soil

STP	500	mg/L
Sediment (Fresh Water)	49.5	g/kg
Sediment (Marine Water)	49.5	g/kg
Soil	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

Protective equipment



Gloves: wear protective gloves.

Eye/face protection: wear eye protection.

Engineering controls: all handling should only take place in well-ventilated areas.

Clothing: wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures: wash hands thoroughly after handling. Do not eat, drink or smoke when using this product.

Respiratory protection: no specific recommendations

9. Physical and Chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Beige to dark brown granules
Odour	Mild
pH	Slightly Acidic
Boiling point	n/a
Melting point	n/a
Flash point	n/a
Flammability	n/a
Autoflammability	n/a
Explosivity	n/a
Oxidising properties	n/a
Vapour Pressure	n/a
Relative density	n/a
Solubility	n/a
Decomposition temperature	n/a

9.2. Other information

None

10. Stability and Reactivity

10.1. Reactivity

Stable under normal conditions of storage and use

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

Information not available

10.4. Conditions to avoid

Extremes of temperature

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

Decomposes at high temperatures producing toxic nitrogen and sulphur oxide fumes.

11. Toxicological information

11.1. Information on toxicological effects Acute toxicity - oral

Acute toxicity – oral

Notes (oral LD50)

No specific test data are available.

Acute toxicity – dermal

Notes (dermal LD50)

No specific test data are available.

Acute toxicity – inhalation

Notes (inhalation LC50)

No specific test data are available.

Serious eye damage/irritation

Irritation of eyes is assumed.

Respiratory sensitisation

No specific test data are available.

NK 10-0-20+1.6Fe+2.4Mg Micro + Microbes Page 6 of 7

Skin sensitisation

Not determined.

Germ cell mutagenicity

Genotoxicity - in vitro

This substance has no evidence of mutagenic properties.

Carcinogenicity

No specific test data are available.

Reproductive toxicity

Reproductive toxicity - fertility

Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure

Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Not anticipated to present an aspiration hazard, based on chemical structure.

Eye contact

The product is considered to be a low hazard under normal conditions of use. May cause eye irritation.

Ecotoxicity

The product is not expected to be toxic to aquatic organisms

12. Ecological information

Not classified as hazardous. Provides nutrients essential to plant growth.

12.1. Toxicity

12.2. Persistence and degradability

The product is slowly degradable.

12.3. Bioaccumulative potential

Partition coefficient not known.

12.4. Mobility in soil

No data.

12.5. Results of PBT and vPvB assessment

The product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

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

ADR, IMDG, IATA Not applicable

14.2. UN proper shipping name

ADR, IMDG, IATA Not applicable

14.3. Transport hazard class(es)

ADR, IMDG, IATA Not applicable

14.4. Packing group

ADR, IMDG, IATA Not applicable

14.5. Environmental hazards

Not a marine pollutant

14.6. Special precautions for user

None

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

15. Regulatory information

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

This substance is classified and labelled in accordance with regulation 1999/45/EC, 1272/2008, the statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging) regulations and the EC Fertiliser Regulations 2003, 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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical safety assessment

Not undertaken for this material

16. Other information

Text of the hazard statements mentioned in Section 3:

H302: Harmful if swallowed

H315: Causes skin irritation

H319: Causes serious eye irritation

Reason for revision

MSDS re-formatted in-line with regulation 453/2010 all sections affected.

Disclaimer

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