

**ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830**

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## **1. Identification of the substance/mixture and of the company/undertaking**

**1.1 Product Identifier:** Chempak Sequestered Iron

**Product code:** n/a

**1.2 Relevant uses of the substance or mixture and uses advised against:**

Identified Use(s): Supplied for use as a fertiliser

Uses Advised Against: None stated

**1.3 Details of the supplier of the safety data sheet:**

Branded Garden Products t/a Thompson & Morgan

Poplar Lane

Ipswich

Suffolk

IP8 3BU

Telephone Number: 0333 4000033

Contact: The Safety Officer

**1.4 Emergency telephone numbers:**

Branded Garden Products t/a Thompson & Morgan: 0333 4000033 (9am to 5pm Monday to Friday, Excluding Public Holidays)

NHS: 111

National UK Emergency: 999

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## **2. Hazards identification**

**2.1 Classification of the substance or mixture**

**CLASSIFICATION according to Regulation (EC) 1272/2008 Classification, Labelling and Packaging**

Eye Damage 1            H318: Causes serious eye damage

Aquatic Chronic 3        H412: Harmful to aquatic life with long lasting effects

**2.2 Label Elements**

**Labelling elements according to Regulation (EC) No. 1272/2008 Classification, Labelling and Packaging**

**Sequestered Iron**

(Contains: manganese sulphate)

**Hazard pictogram:**



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**Signal Word:** Danger

**Hazard statements:**

H318 Causes serious eye damage

H412 Harmful to aquatic life with long lasting effects

**Precautionary phrases:**

P280 Wear eye 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.

P310 Immediately call a POISON CENTER/doctor.

P391 Collect spillage.

P501 Dispose of contents/container in accordance with national regulations.




**2.3 Other Hazards**

Mixture not classified as PBT or vPvB.

**3. Composition/information on ingredients**

**3.2 Mixtures**

**3.3 Hazardous components**

Chemical Name	CAS-No./ EC-No.	Annex Index/ REACH number	Pictogram(s) according to 1272/2008:	H-phrase(s) according to 1272/2008:	Concentrations [%]
Manganese Sulphate	10034-96-5/ 232-089-9	Index number: 025-003-00-4  REACH number: 01-2119456624-35	GHS05  GHS09  GHS08 	Eye Dam. 1; H318 STOT RE2; H373 Aquatic Chronic 2; H411	9

The full hazard information for individual components if not displayed in section 2 or 3 are displayed in Section 16.

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## **4. First aid measures**

### **4.1 Description of first aid measures**

#### **4.1.1 Inhalation**

Keep patient calm, remove to fresh air and seek medical attention. If unconscious place in recovery position and seek medical advice.

#### **4.1.2 Skin & Eye exposure**

Skin: Wash off with soap and water

Eyes: Rinse thoroughly with plenty of water for at least 15 minutes. Seek medical attention IMMEDIATELY.

#### **4.1.3 Ingestion**

Wash out mouth with water and give water to drink. Do not induce vomiting. Seek medical attention IMMEDIATELY.

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

Causes serious eye damage.

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

Treat symptomatically.

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## **5. Firefighting measures**

### **5.1 Extinguishing media**

This mixture is not classified as flammable. Use extinguishing media appropriate for surrounding materials: Water; Water spray; Foam; Carbon Dioxide (CO<sub>2</sub>); Dry powder.

### **5.2 Special Hazards arising from the substance or mixture**

In combustion emits toxic fumes.

### **5.3 Advice for fire-fighters**

In the event of fire, wear self-contained breathing apparatus and protective suit. Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment).

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## **6. Accidental release measures**

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

Refer to section 8 of SDS for personal protection details. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

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Ensure adequate ventilation.

In case of insufficient ventilation, wear suitable respiratory equipment.

**6.2 Environmental precautions**

Do not empty into drains.

Retain and dispose of contaminated wash water.

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

Soak up using inert material such as sand. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

For personal protection see section 8.

**7. Handling and storage****7.1 Precaution for safe handling**

Avoid contact with skin and eyes. Wash hands before breaks and at the end of workday.

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

Store in a cool, dry place in original container.

**7.3 Specific end use(s)**

Supplied for use as a fertilizer.

**8. Exposure controls and personal protection****8.1 Control Parameters**

Workplace exposure Limits as defined by UK HSE in document EH40/2005 where available:

Substance	CAS number	Workplace Exposure Limit				Comments
		Long-term exposure limit (8-hr TWA reference period)		Short-term exposure limit (15 minute reference period)		
		ppm	mg.m <sup>-3</sup>	ppm	mg.m <sup>-3</sup>	
Iron salts (as Fe)	-	-	1.0	-	2.0	The Carc, Sen and Sk notations are not exhaustive. Notations have been applied to the substances identified in IOELV Directives*
Manganese and its inorganic compounds (as Mn)	-	-	0.5	-	-	-

\*IOELV – Indicative Occupational Exposure Limit Values (IOLEV).

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DNELs and PNECs where available:

**Manganese sulphate:**

**DNELs**

Industry	Dermal	Long Term	4.14 µg/Kg/day
Industry	Inhalation.	Long Term	0.2 mg/m <sup>3</sup>
Consumer	Dermal	Long Term	2.1 µg/Kg/day
Consumer	Inhalation.	Long Term	0.043 mg/m <sup>3</sup>

DNELs for the oral route, all "acute effects" and for "long-term local-effects" were not calculated and are not required for the "identified uses" covered in this SDS and the Chemical Safety Report (CSR).

**PNECs**

Freshwater	0.0128 mg/l
Marinewater	0.4 µg/l
Spills(freshwater)	30 µg/l
Sediment (Freshwater)	11.4 µg/kg
Sediment (Marinewater)	1.4 µg/kg
Soil	25.1 mg/kg
STP	56 mg/l

Soil & sediment PNEC values are mg/kg wet weight.

**Source:** Norkem SDS 10/09/2015

**8.2 Exposure controls**

Engineering measures: Ensure any engineering measures mentioned in section 7 of SDS are in place.

Respiratory protection: Respiratory protective device with particle filter.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: Not applicable.

**9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Appearance; Powder

Colour; Brown

Odour; Information not available

Odour threshold; Information not available

pH; Information not available

Melting point/freezing; Not applicable

Initial boiling point and boiling range; Not applicable

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Flash point; Not applicable  
Evaporation rate; Not applicable  
Flammability (solid, gas); The product is not flammable  
Upper /lower flammability or explosive limits; Not applicable  
Vapour Pressure; Not applicable  
Vapour density; Not applicable  
Specific gravity; Information not available  
Solubility (ies); information not available  
Partition coefficient: n-octanol/water; Not applicable  
Auto ignition temperature: Not applicable  
Decomposition temperature: Information not available

**9.2 Other Information**

No information available.

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**10. Stability and reactivity**

**10.1 Reactivity**

Reactivity: Stable under recommended transport or storage conditions.

**10.2 Chemical Stability**

Stable under normal conditions of use.

**10.3 Possibility of hazardous reactions**

Information not available.

**10.4 Conditions to avoid**

Conditions to avoid: Heat.  
Avoid dust generation.

**10.5 Incompatible materials**

Materials to avoid: Strong oxidising agents. Strong acids, organic materials.

**10.6 Hazardous decomposition products**

In combustion emits toxic fumes.

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**11. Toxicological information**

**11.1 Information on toxicological effects**

The mixture has not been assessed for toxicological effects, the mixture classification is given in section 2 based on individual component contents. Individual component hazards if any are given in section 3.

Acute toxicity: Not expected to be toxic.

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Skin corrosion/irritation:	Product is not classified as causing skin corrosion or irritation
Serious eye damage/irritation:	Product is classified as causing severe eye damage
Respiratory or skin sensitisation:	Product is not classified as causing skin sensitisation
Germ cell mutagenicity:	No information specified.
Carcinogenicity:	No information specified
Reproductive toxicity:	No information specified.
STOT-single exposure:	No information specified.
STOT-repeated exposure:	No information specified.
Aspiration hazard:	No information specified.

**Toxicological information on hazardous ingredients where available:****Manganese sulphate:****Acute toxicity:**

Acute Toxicity (Oral LD50)

2150 mg/kg Rat

Test method(s): Indian Journal of Pharmacology, 23(3): 153-159. REACH dossier information

Based on available data the classification criteria are not met.

Acute Toxicity (Dermal LD50)

Not determined.

Dermal absorption is unlikely due to the physical-chemical properties of the substance.

**Acute Toxicity (Inhalation LC50)**

&gt; 4.45 mg/l (dust/mist) Rat 4 hours

Test method(s): OECD 403.

Based on available data the classification criteria are not met.

**Skin Corrosion/Irritation:**

Erythema\eschar score

No erythema (0).

Oedema score

No oedema (0).

Test method(s): OECD 404.

Not irritating.

**Serious eye damage/irritation:**

Irritating. Test method(s): OECD 405. Irritation score: 36 / 110

**Respiratory or skin sensitisation:**

Skin sensitisation

Patch Test: Mouse

Not Sensitising.

REACH dossier information

**Germ cell mutagenicity:**

Genotoxicity - In Vitro

Gene Mutation:

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REACH dossier information - A surrogate substance (Manganese chloride) was used. Test method(s): OECD 476. + 471.

Negative.

Genotoxicity - In Vivo

Chromosome aberration:

REACH dossier information - A surrogate substance (Manganese chloride) was used. Test method(s): OECD 474.

Negative.

**Carcinogenicity:**

Carcinogenicity

NOAEL (♂) 615 mg/kg Oral Rat

NOAEL (♀) 715 mg/kg Oral Rat

REACH dossier information - Test method(s): 70 male and 70 female rats were fed diets containing 0, 1, 500, 5, 000, or 15, 000 ppm manganese (II) sulphate monohydrate for 103 weeks. The level of manganese in the diet received by controls was approximately 92 ppm.

As many as 10 rats per group were evaluated after 9 months and 15 months of chemical exposure.

Based on available data the classification criteria are not met.

**Reproductive Toxicity:**

Reproductive Toxicity - Fertility

Endpoint waived according to REACH Annex VII, IX or XI.

Testing waived because a more severe health effect was found (STOT-RE class2). Controlling the risk of 'STOT-RE class 2' will control the risks for this endpoint.

Suspected reproductive toxicant based on limited evidence.

Reproductive Toxicity - Development

Endpoint waived according to REACH Annex VII, IX or XI.

Testing waived because a more severe health effect was found (STOT-RE class2). Controlling the risk of 'STOT-RE class 2' will control the risks for this endpoint.

Suspected reproductive toxicant based on limited evidence.

**Specific target organ toxicity - single exposure:**

STOT - Single exposure

Scientifically unjustified.

**Specific target organ toxicity - repeated exposure:**

STOT - Repeated exposure

Not determined.

Target Organs

Brain

MnSO<sub>4</sub> is already classified under Directive 67/548/EEC as R48/20/22 and under GHS as STOT RE2.

Data exists showing some neurochemical changes at low levels after inhalation exposure for 90-days, together with locomotor changes, around 3 mg/m<sup>3</sup> concentration, suggesting that significant toxicity could occur at the 20-200 mg/m<sup>3</sup> concentration level, which supports the current classification of STOT RE 2 for the inhalation route.

**Aspiration hazard:**

Viscosity

Not applicable.

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**Inhalation**

Prolonged inhalation of high concentrations may damage respiratory system.

**Ingestion**

May cause discomfort if swallowed.

**Skin contact**

Powder may irritate skin.

**Eye contact**

Particles in the eyes may cause irritation and smarting.

Route of entry

**Inhalation.**

Target Organs

Brain Eyes Respiratory system, lungs Skin

**Source:** Norkem SDS 10/09/2015

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## **12. Ecological information**

### **12.1 Toxicity**

Not classified as harmful to aquatic life.

**Ecotoxicological information on hazardous ingredients where available:**

**Manganese sulphate:**

**Acute Toxicity - Fish**

LC50 96 hours 14.5 mg/l Onchorhynchus mykiss (Rainbow trout)

OECD 203

**Acute Toxicity - Aquatic Invertebrates**

EC50 48 hours 9.8 mg/l Daphnia magna

Read-across data, Manganese chloride.

**Acute Toxicity - Aquatic Plants**

EC50 72 hours 61 mg/l

Desmodesmus subspicatus (algae). Test method(s): OECD 201.

**Chronic toxicity - fish early life stage**

NOEC, 4 months: 0.6 mg/l, Onchorhynchus mykiss (Rainbow trout)

**Source:** Norkem SDS 10/09/2015

### **12.2 Persistence and degradability**

Not biodegradable

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**12.3 Bioaccumulative potential**

Bioaccumulation

**12.4 Mobility in soil**

Information not available

**12.5 Results of PBT and vPvB**

Not classified as PBT or vPvB

**12.6 Other adverse effects**

Information not specified.

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**13. Disposal considerations**

**13.1 Waste Treatment Methods**

Disposal operations: Transfer to a suitable container and arrange for collection by specialised Disposal company.

Recovery operations: Dispose of in compliance with all local and national requirements.

Disposal of packaging: Empty containers should be disposed of in accordance with local and national regulations.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

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**14. Transport information**

**14.1 UN number:** Not classified

**14.2 UN proper shipping name:** -

**14.3 Transport hazard:** -

**14.4 Packing group:** -

**14.5 Environmental hazards:** Not a marine pollutant

**14.6 Special precautions for user:** No Information available

**14.8 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:** No information available

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**15. Regulatory information**

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

This substance/mixture is classified and labelled in accordance with Regulation EC 1272/2008, the EC Fertiliser Regulations 2003 and 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

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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**

CSA not undertaken for this product

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**16. Other information****Reasons for update**

Removal of references to Directives 67/548/EEC and 1999/45/EC and statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging)	Sections 1,2,3,15,16
Change in precautionary phrase	Section 2
Addition of WEL	Section 8
Addition of hazard phrase codes	Section 16
Addition of abbreviations in 'Legend'	Section 16

**Other Hazard Information assigned to individual ingredients, but not carried to final classification:**

H318 Causes serious eye damage

H373 May cause damage to organs through prolonged or repeated exposure

H411 Toxic to aquatic life with long lasting effects

**LEGEND**

Aquatic Chronic 2	Aquatic chronic toxicity Category 2
DNEL	Derived No-Effect Level
DMEL	Derived Minimal Effect Level
Eye Dam. 1	Eye Damage Category 1
LD50	Lethal Dose 50%
LC50	Lethal Concentration 50%
Oxid. Solid 3	Oxidising solid Category 3
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
STOT RE2	Specific Target Organ Toxicity Repeat Effect Category 2
TWA	Time weighted Average
vPvB	very Persistent and very Toxic
WEL	Workplace Exposure Limit

**SDS information:**

This Safety data sheet is compiled using data submitted for raw materials and practical experience.

This Safety Data Sheet is prepared in compliance with Regulation 1272/2008 and Annex II of the REACH Regulation 453/2010.

The information given herein is, to the best of our knowledge, correct and is presented in good faith but no warranty, expressed or implied is given.

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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 of 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 material or in any process, unless specified in the text.