



SDS COMPLETED: 22<sup>RD</sup> JANUARY 2015  
VERSION: 01  
REVISION NUMBER: N/A  
SUPERSEDES: N/A

## SAFETY DATA SHEET

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### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier:

**BULLET** Maxwell Manganese (Mn-15)

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

Supplied for use as a professional use fertiliser

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

### Maxwell Amenity Ltd

Allscott Park, Allscott, Telford, TF6 5DY  
Tel: 01952 897910  
Fax: 01952 247369  
Web: [www.maxwellamenity.co.uk](http://www.maxwellamenity.co.uk)

**Contact: The Safety Officer**

#### 1.4 Emergency phone number

**Phone number: + 44 (0) 1743 860924**

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### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

CLASSIFICATION according to Directive EC 1272/2008 Classification, Labelling and Packaging

Eye Dam. 1; H318 Causes serious eye damage.

STOT Rep 2; H373 May cause damage to organs through prolonged or repeated exposure.

Aquatic Chr. 2; H411 Toxic to aquatic life with long lasting effects

CLASSIFICATION according to Directive 1999/45/EC and statutory instrument No.716 2009 Chemicals (Hazard Information and Packaging) regulation)

Xn; R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

N; R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Primary Hazard

Causes serious eye damage. May cause damage to organs through prolonged or repeated exposure.

#### 2.2 Label Elements

**Maxwell Manganese (Mn-15)**  
(contains: Manganese sulphate E.C. 232-089-9)



**Signal word: Danger**

**Hazard Statements:**

- 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.

**Precautionary Statements**

- P260 Do not breathe mist/vapours/spray.
- P280 Wear protective gloves/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 or doctor/physician.
- P391 Collect spillage
- P501 Dispose of contents/container in accordance with local/national regulations.

**2.3 Other Hazards**





Mixture not classed as PBT or vPvB


3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Product Code:** RL562A

**3.2 Mixtures**

**3.3 Hazardous components**

Chemical Name	CAS-No./ EINECS-No.	Annex Index or REACH number	Symbol(s)	R-phrases	Concentrations [%]
Manganese sulphate	10034-96-5/ 232-089-9	Index no.: 025-003-00-4  REACH registration no.: 01-2119456624-35	According to 1272/2008: GHS05  GHS08  GHS09   According to 67/548/EEC:  Xn – HARMFUL	According to 1272/2008: Eye Damage 1; H318 STOT Rep. 2; H373 Aqu. Tox. chron. 2; H411  According to 67/548/EEC: R48/20/22 R51/53	30.0 – 40.0

			 <p>N – DANGEROUS FOR THE ENVIRONMENT</p>		
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The full hazard information for individual components if not displayed in section 2 or 3 are displayed in Section 16.

#### 4.0. FIRST AID MEASURES

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

###### **4.1.1 Inhalation**

Remove from source of exposure to fresh air; seek medical attention.

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

Drench immediately with water. Remove any contaminated clothing and launder before re-use. Seek medical attention if symptoms persist or develop.

Eyes: Rinse cautiously for several minutes, Remove contact lenses, if present and easy to do, rinse with clean water for 15 minutes. Seek medical attention IMMEDIATELY.

###### **4.1.3 Ingestion**

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

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

Causes serious eye damage. May damage fertility or cause harm to the unborn child. May cause damage to organs through prolonged or repeated exposure.

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

Information not available

#### 5. FIRE-FIGHTING MEASURES

##### **5.1 Extinguishing media**

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

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

Possible irritant fumes arising from combustion

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

Cool down containers/equipment exposed to heat with a water spray. Contain spread of extinguishing fluids (these fluids may be hazardous for the environment). Wear complete protective clothing and self-contained breathing apparatus

#### 6. ACCIDENTAL RELEASE MEASURES

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

The following precautions are considered to be good practice when using any chemicals irrespective of their classification unless otherwise specified.

Use personal protective equipment  
 -appropriate coveralls and gloves  
 -eye/face protection  
 -appropriate respirator

Avoid contact with skin and eyes

## 6.2 Environmental Precautions

Do not allow to enter storm drains or water courses. If this product enters a water course or a sewer (including via contaminated soil & vegetation) contact local water authority and inform the Environment Agency

## 6.3 Methods and material for containment and cleaning up

Use soil, sand or other absorbent material. Contact specialist waste disposal contractor.

## 6.4 Reference to other sections

No reference necessary

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## 7. HANDLING AND STORAGE

### 7.1 Precaution for safe handling

Avoid contact with skin and eyes. Wash Hands thoroughly after handling

Do not eat, drink or smoke when using this product. remove contaminated clothing and protective equipment before entering eating areas.

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

Store in a cool dry atmosphere, in original labelled containers. Refer to manufacturer for maximum safe stacking height. Keep away from heat sources, combustible materials.

### 7.3 Specific end use(s)

No specific information available

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## 8. EXPOSURE CONTROLS/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>	
Manganese and its inorganic compounds (as Mn)	-	-	0.5	-	-	The Carc, Sen and Sk notations are not exhaustive. Notations have been applied to the substances identified in IOELV Directives*

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

Sk Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

### 8.2 Exposure controls

Goggles – Eye Protection : goggles/face shield to BS EN166.

Gloves – BS EN374 – chemical protection.

Respirators – BS approved protection device with P3 filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

**Appearance;** Pink liquid

**Odour;** Information not specified

**Odour threshold;** Information not specified

**pH;** 3.0 – 6.0

**Melting point/freezing;** Information not specified

**Initial boiling point and boiling range;** Information not specified

**Flash point;** Information not specified

**Evaporation rate;** Information not specified

**Flammability (solid, gas);** Information not specified

**Upper /lower flammability or explosive limits;** Information not specified

**Vapour Pressure;** Information not specified

**Vapour density;** Information not specified

**Specific gravity;** 1.33 – 1.37

**Solubility (ies);** Information not specified

**Partition coefficient: n-octanol/water;** Information not specified

**Auto ignition temperature:** Information not specified

**Decomposition temperature:** Information not specified

## **9.2 Other Information**

No other relevant information available

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## 10. STABILITY AND REACTIVITY

### **10.1 Reactivity**

Unknown

### **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**

Possible Irritant 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 are given in section 3

### **Toxicological information on hazardous ingredients:**

#### **Manganese sulphate**

Acute Toxicity (Oral LD50) 2150 mg/kg Rat  
Acute Toxicity (Dermal LD50) Scientifically unjustified.  
Dermal absorption is unlikely due to the physical-chemical properties of the substance.

Acute Toxicity (Inhalation LC50) > 4.45 mg/l (dust/mist) Rat 4 hours  
Skin Corrosion/Irritation – Animal Data  
OECD 404, 72 hr Rabbit  
Primary Dermal Irritation  
Index (PDI)  
zero scores  
Not irritating.

Serious Eye Damage/Irritation Irritating.  
Respiratory Sensitisation No information available.  
Skin Sensitisation Mouse; Not Sensitising.

Germ Cell Mutagenicity (In Vivo)  
Gene Mutation: Negative.  
Carcinogenicity NOAEL (Male) 615 mg/kg Oral Rat  
NOAEL (Female) 715 mg/kg Oral Rat

The criteria for classification as a carcinogen is not met. (Not classified).  
Groups of 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.

Reproductive Toxicity Not determined.  
Suspected reproductive toxicant based on limited evidence.  
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.

Reproductive Toxicity – Development Not determined.  
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

STOT - Single Exposure Not determined.  
STOT - Repeated Exposure No information available.  
Target Organs Brain  
MnSO4 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/m3 concentration, suggesting that significant toxicity could occur at the 20-200 mg/m3 concentration level, which supports the current classification of STOT RE 2 for the inhalation route.

INHALATION: Prolonged inhalation of high concentrations may damage respiratory system.  
SKIN CONTACT: Acts as a defatting agent on skin. May cause cracking of skin, and eczema.  
Prolonged or repeated exposure may cause severe irritation.  
EYE CONTACT: May cause severe irritation to eyes.  
INGESTION: The product causes irritation of mucous membranes and may cause abdominal discomfort if swallowed.  
TARGET ORGANS: Skin Eyes Respiratory system, lungs

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Mixture Classified as Toxic to aquatic life with long lasting effects to the environment in accordance with the Dangerous Preparations Directive 1999/45/EC**

**Toxicity of ingredients where available:**

**Manganese sulphate:**

Acute Fish Toxicity

Not considered toxic to fish.

LC 50, 96 Hrs, Fish mg/l 30 (mg Mn)

Acute Toxicity - Fish LC50 96 hours 116 mg/l *Onchorhynchus mykiss* (Rainbow trout)

Acute Toxicity – Aquatic Invertebrates 48 hours 9.8 mg/l *Daphnia magna*

LC(50) > 10mg/L Mn. The test was performed using a structural analogue, i.e. an alternative manganese compound.

Acute Toxicity - Aquatic Plants EC50 72 hours 61 mg/l

OECD Guideline 201 (Alga, Growth Inhibition Test).

*Desmodesmus subspicatus* (algae).

Chronic Toxicity - Fish Early Life Stage NOEC 28 days 0.6 mg/l *Onchorhynchus mykiss* (Rainbow trout)

Chronic Toxicity - Aquatic Invertebrates Not determined.

Data from a supporting substance was used to meet the test data criteria for REACH.

**2.2 Persistence and degradability**

Readily biodegradable

**12.3 Bioaccumulative potential**

Information not available

**12.4 Mobility in soil**

Information not available

**12.5 Results of PBT and vPvB**

Not classified

**12.6 Other adverse effects**

Information not available

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste Treatment Methods**

Use only licensed waste disposal companies. Do not re-use empty containers for any purpose.

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**14. TRANSPORT INFORMATION**

**14.1 UN number:** UN3082

**14.2 UN proper shipping name:** Environmentally hazardous substance, Liquid N.O.S. (contains: Manganese sulphate E.C. 232-089-9)

**14.3 Transport hazard:** 9

**14.4 Packing group:** III

**14.5 Environmental hazards:** Product is classified as toxic to aquatic life with long lasting effects.

**14.6 Special precautions for user:** Not specified

**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.

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**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.  
Regulation (EC)

### **15.2 Chemical Safety Assessment**

CSA not undertaken for this substance

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### 16. OTHER INFORMATION

#### **SDS information:**

This safety data sheet is compiled using data submitted for raw materials and practical experience. This product is intended for professional users only.

This Safety Data Sheet is prepared in compliance with Directive 1999/45/EC, 1272/2008 and Annex I 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.

PRINTED : 29 MARCH 2016