

SAFETY DATA SHEET

BOSON

This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008



SDS # : NP-0087-A
Revision date: 2018-07-23
Format: EU
Version 1.02

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s) NP-0087-A

Product Name BOSON

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

Recommended Use: A micronutrient suspension concentrate for use in agriculture

Restrictions on use Use as recommended by the label.

1.3. Details of the supplier of the safety data sheet

Manufacturer FMC Agro Limited
Rectors Lane
Pentre
Flintshire
CH5 2DH
United Kingdom
Tel: + 44 (0) 1244 537370
E-mail: fmc.agro.uk@fmc.com

For further information, please contact:

Contact point Tel: +44(0)1244 537370
Email: fmc.agro.uk@fmc.com

1.4. Emergency telephone number

Emergency telephone Tel: +44(0)1244 537370 (Office hours only)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture *Regulation (EC) No 1272/2008*

This product has no label elements. Hazard symbol not required.

EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

2.2. Label elements

Hazard pictograms

This product has no label elements. Hazard symbol not required.

Signal Word

None

Hazard Statements

EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

2.3. Other hazards

This product is not identified as a PBT/vPvB substance.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical name	EC-No	CAS-No	Weight percent	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
ethane-1,2-diol	203-473-3	107-21-1	1-10	Acute Tox. 4 (H302) STOT RE 2: (H373)	01-2119456816-28-XXXX
Sulphur powder (ground)	231-722-6	7704-34-9	1-10	Skin Irrit. 2 (H315)	01-2119487295-27-XXXX
Zinc oxide	215-222-5	1314-13-2	<1	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119463881-32-XXXX

Additional Information

Contains 1,2-Benzisothiazolin-3-one (CAS number 2634-33-5) at a level below the concentration limit for classification of the mixture as sensitising.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a doctor if irritation persists.
Skin Contact	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
Inhalation	Remove person from exposure ensuring one's own safety while doing so.
Ingestion	Rinse mouth. Do NOT induce vomiting. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed	Skin contact: May see mild irritation at the site of contact.
	Eye contact: Possible irritation and redness.
	Ingestion: Possible irritation of the throat.
	Inhalation: May experience irritation of the throat with a feeling of tightness in the chest.
	Delayed/Immediate effects: Immediate effects can be expected after short-term exposure.

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

Indication of immediate medical attention and special treatment needed, if necessary	Treat symptomatically.
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Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media**Suitable Extinguishing Media**

Use extinguishing agent suitable for type of surrounding fire. Cool containers / tanks with water spray.

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Toxic fumes may be released in fire situations.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear. Wear protective clothing to prevent contact with skin and eyes.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal Precautions**

For personal protection see section 8. Isolate and post spill area. In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons. Stop leak if you can do it without risk.

For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not allow into any sewer on the ground, or into any body of water. Contain the spillage using bunding.

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

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up

Surface water drains within close vicinity of the spill should be covered. Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Refer to section 13 of SDS for suitable method of disposal.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling****Handling**

Ensure adequate ventilation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

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

Protect from freezing. Store above 5°C. Keep in a dry, cool and well-ventilated place. To maintain product quality, do not store in heat or direct sunlight. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)**Specific Use(s)**

No data available.

Risk Management Methods (RMM)

The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical name	European Union	The United Kingdom	France	Spain	Germany
ethane-1,2-diol 107-21-1	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ S*	STEL 40 ppm STEL 104 mg/m ³ STEL 30 mg/m ³ TWA 10 mg/m ³ TWA 20 ppm TWA 52 mg/m ³ Skin	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ P*	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ S*	-
Zinc oxide 1314-13-2	-	TWA 52 mg/m ³ (vapour) STEL 104 mg/m ³ (vapour)	TWA 5 mg/m ³ TWA 10 mg/m ³	TWA 2 mg/m ³ STEL 10 mg/m ³	-
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
ethane-1,2-diol 107-21-1	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ Pelle*	TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ Ceiling 100 mg/m ³ C(A4) P*	Huid* STEL 104 mg/m ³ TWA 52 mg/m ³ TWA 10 mg/m ³	TWA 20 ppm TWA 50 mg/m ³ STEL 40 ppm STEL 100 mg/m ³ iho*	TWA 10 ppm TWA 26 mg/m ³ TWA 10 mg/m ³ H*
Zinc oxide 1314-13-2	-	TWA 2 mg/m ³ STEL 10 mg/m ³	-	TWA 2 mg/m ³ STEL 10 mg/m ³	TWA 4 mg/m ³
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
ethane-1,2-diol 107-21-1	H* STEL 20 ppm STEL 52 mg/m ³ TWA 10 ppm TWA 26 mg/m ³	SS-C** H* TWA 10 ppm TWA 26 mg/m ³ STEL 20 ppm STEL 52 mg/m ³	TWA 15 mg/m ³ STEL 50 mg/m ³	TWA 20 mg/m ³ TWA 52 ppm TWA 52 mg/m ³ S* STEL 104 mg/m ³ STEL 40 ppm	TWA 10 mg/m ³ TWA 20 ppm TWA 52 mg/m ³ STEL 40 ppm STEL 104 mg/m ³ Skin
Zinc oxide 1314-13-2	TWA 5 mg/m ³	TWA 3 mg/m ³ STEL 3 mg/m ³	TWA 5 mg/m ³ STEL 10 mg/m ³	TWA 5 mg/m ³ STEL 10 mg/m ³	TWA 2 mg/m ³ STEL 10 mg/m ³

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures Ensure adequate ventilation.

Personal protective equipment

Eye/Face Protection Safety Glasses. Eye wash bottle with pure water.

Hand Protection Protective gloves. PVC gloves. PVA gloves. Impervious butyl rubber gloves. Nitrile rubber.

Skin and Body Protection Wear suitable protective clothing.

Respiratory Protection Not required under normal use.

Environmental exposure controls Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid
Appearance Liquid suspension
Odour Barely perceptible
Colour Beige

Odour threshold	No information available
pH	9.0 - 10.0
Melting point/freezing point	No information available
Boiling point/boiling range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit	No information available
Vapour pressure	No information available
Vapour density	No information available
Specific gravity	1.54 - 1.56
Water solubility	Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidising properties	Non-oxidizing (by EC criteria)

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Density	No information available
Bulk density	No information available
K _{st}	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended storage conditions

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data

Sensitivity to Mechanical Impact No information available.

Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions**Hazardous polymerisation**

Hazardous polymerization does not occur.

Hazardous reactions

None under normal processing. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

May emit toxic fumes under fire conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

LD50 Oral > 6000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

Chemical name	LD50 Oral	LD50 Dermal	Inhalation LC50
Sulphur powder (ground)	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 9.23 mg/L (Rat) 4 h

Skin corrosion/irritation No information available.
Serious eye damage/eye irritation No information available.
Sensitisation No information available.
Mutagenicity No information available.
Carcinogenicity No information available.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.

Symptoms

Skin contact: May see mild irritation at the site of contact.

Eye contact: Possible irritation and redness.

Ingestion: Possible irritation of the throat.

Inhalation: May experience irritation of the throat with a feeling of tightness in the chest.

Delayed/Immediate effects: Immediate effects can be expected after short-term exposure.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

There is no data available for this product.

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sulphur powder (ground)	-	96 h LC50: = 866 mg/L (Brachydanio rerio) static 96 h LC50: < 14 mg/L (Lepomis macrochirus) static 96 h LC50: > 180 mg/L (Oncorhynchus mykiss) static	-

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Negligible

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Transfer to a suitable container and arrange for collection by specialised disposal company. Alternatively, the product can be sent for water treatment. Diluted product and washings should also be sent for water treatment.
Contaminated Packaging	Clean container with water. Empty containers should be taken to an approved waste handling site for recycling or disposal. Dispose of rinse water in accordance with local and national guidelines.
EWC Waste Disposal No	02 01 09
OTHER INFORMATION	NOTE : The user's attention is drawn to the possible existence of specific European, national or local regulations regarding disposal.

Section 14: TRANSPORT INFORMATION

NOTE	NOT CLASSIFIED AS DANGEROUS IN THE MEANING OF TRANSPORT REGULATIONS.
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IMDG/IMO

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine Pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	This product is not transported in bulk containers.

RID

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

ADR/RID

14.1 UN/ID no	Not regulated
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14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

ICAO/IATA

14.1 UN/ID no	Not regulated
14.2 Proper Shipping Name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental Hazard	Not applicable
14.6 Special Provisions	None

Section 15: REGULATORY INFORMATION

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

European Union

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)

This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not Applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not Applicable

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
ethane-1,2-diol 107-21-1	X	X	X	X	X	X	X	X
Sulphur powder (ground) 7704-34-9	X	X	X		X	X	X	X
Zinc oxide 1314-13-2	X	X	X	X	X	X	X	X

15.2. Chemical safety assessment

A Chemical Safety Assessment has not yet been completed for this substance.

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of R-phrases referred to under sections 2 and 3

Not applicable

Full text of H-Statements referred to under sections 2 and 3

EUH208 - May produce an allergic reaction

H302 - Harmful if swallowed

H315 - Causes skin irritation

H373 - May cause damage to organs through prolonged or repeated exposure

H410 - Very toxic to aquatic life with long lasting effects

Legend

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	CAS (Chemical Abstracts Service)
Ceiling:	Maximum limit value:
DNEL:	Derived No Effect Level (DNEL)
EINECS:	EINECS (European Inventory of Existing Chemical Substances)
GHS:	Globally Harmonised System (GHS)
IATA:	International Air Transport Association (IATA)
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods (IMDG)
LC50:	LC50 (lethal concentration)
LD50:	LD50 (lethal dose)
PBT:	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STEL:	Short term exposure limit
SVHC	SVHC: Substances of Very High Concern for Authorisation:
TWA:	time weighted average
vPvB:	very Persistent and very Bioaccumulative

Revision date: 2018-07-23**Reason for revision:** Format Change.**Further information** This Safety Data Sheet has been prepared according to Regulation (EC) 1907/2006 and Regulation (EU) 2015/830**Disclaimer**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Prepared By

FMC Corporation

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End of Safety Data Sheet