SAFETY DATA SHEET

ZINC SULPHATE MONOHYDRATE

Compilation date: 09/01/2007

Revision date: 25/09/13

Revision No: 3

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: ZINC SULPHATE MONOHYDRATE

CAS number: 7733-02-0

EINECS number: 231-793-3

Index number: 030-006-00-9

Product code: *

Synonyms: * SULPHURIC ACID, ZINC SALT

THE HYDRATED FORMS OF THIS PRODUCT ARE COVERED AS PER REACH ANNEX V.

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

Use of substance / mixture: * Animal Feed Processing. Agricultural Applications. Surface Active Agent. Pharmaceutical preparations. Chemical manufacturing. Process additive. Lubricant

1.3. Details of the supplier of the safety data sheet

Company name: Monarch Chemicals Limited

New Road

Sheerness

Kent

ME12 1LZ

United Kingdom

Tel: 01795 583333 (09:00 - 17:00 Mon-Fri)

Fax: 01795 583300

Email: sales@monarchchemicals.co.uk

1.4. Emergency telephone number

Emergency tel: 07711 009064 (Out of Hours)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Acute Tox. 4: H302; Aquatic Chronic 1: H410; Eye Dam. 1: H318; Aquatic Acute 1: H400

Classification under CHIP: Xn: R22; Xi: R41; N: R50/53

Most important adverse effects: Harmful if swallowed. Causes serious eye damage. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Label elements under CLP:

Hazard statements: * H302: Harmful if swallowed.

[cont...]

H318: Causes serious eye damage.

H410: Very toxic to aquatic life with long lasting effects.

Signal words: * Danger

Hazard pictograms: * GHS05: Corrosion

GHS07: Exclamation mark

GHS09: Environmental



Precautionary statements: * P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P305+351+338: 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.

P501: Dispose of contents/container to : An approved recycle or waste disposal facility.

2.3. Other hazards

PBT: This product is not identified as a PBT substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: ZINC SULPHATE

CAS number: 7733-02-0

EINECS number: 231-793-3

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. If irritation develops or persists seek medical attention.

Eye contact: Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

Ingestion: Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Transfer to hospital as soon as possible.

Inhalation: * Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. If symptoms develop seek medical attention.

[cont...]

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

Skin contact: * There may be mild irritation at the site of contact. Defatting, drying and cracking of the skin may occur.

Eye contact: * Risk of serious damage to eyes. There may be irritation and pain. Corneal burns may occur. May cause mechanical irritation to the eyes.

Ingestion: * Harmful if swallowed. Moderately toxic, although there is very low risk during normal industrial use. May cause irritation of the gastrointestinal tract. Nausea and stomach pain may occur. There may be vomiting and diarrhoea. Damage to liver and kidneys may develop later.

Inhalation: * May cause irritation of the mucous membranes and respiratory system. May cause shortness of breath, sneezing and coughing. Prolonged or repeated exposure may cause ulceration and perforation of the nasal septum. Absorption through the lungs can occur causing symptoms similar to those of ingestion.

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

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

Immediate / special treatment: * Eye bathing equipment should be available on the premises. Show this safety data sheet to the doctor in attendance.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: * Suitable extinguishing media for the surrounding fire should be used. Water spray. Carbon dioxide. Alcohol or polymer foam. Dry chemical powder. Use water spray to cool containers. Use water spray to reduce vapours.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes of sulphur oxides. The product does not support combustion.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. 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: Wear suitable protective clothing. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Remove all incompatible materials as outlined in section 10 of SDS. Do not create dust.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

[cont...]

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Product may be dampened with a little water to reduce dust formation. Transfer to a closable, labelled salvage container for disposal by an appropriate method. Wash the spillage site with large amounts of water.

6.4. Reference to other sections

Reference to other sections: * Refer to section 8 of SDS. Refer to section 13 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Wear suitable protective clothing. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of dust in the air. Avoid contact with the material and breathing its dust. Ensure that contaminated clothing is thoroughly laundered prior to re-use.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed. Do not store near foodstuffs.

Suitable packaging: Must only be kept in original packaging.

7.3. Specific end use(s)

Specific end use(s): * No special requirement.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	See Section 16	See Section 16	4 mg/m-3	-

8.1. DNEL/PNEC Values

ZINC SULPHATE MONOHYDRATE

Type	Exposure	Value	Population	Effect
DNEL	Inhalation - Long Term	1 mg/m3	-	-
PNEC	Freshwater	0.0206 mg/l	-	-
PNEC	Marinewater	0.0061 mg/l	-	-

[cont...]

PNEC	Sediment (Freshwater)	235.6 mg/kg	-	Generic Bioavailability factor of 0.5 applied (ECB 2008)
PNEC	Sediment (Marine)	113 mg/kg	-	Generic Bioavailability factor of 0.5 applied (ECB 2008)
PNEC	Soil	106.8 mg/kg	-	Value multiplied by 3 to account 'lab-to-field' differences
PNEC	STP	0.0052 mg/l	-	Derived by applying assessment factor to lowest relevant tox

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area. Ensure all engineering measures mentioned in section 7 of SDS are in place.

Respiratory protection: * Respiratory protective device with particle filter. Particle filter class P3S (EN143).

Hand protection: * Protective gloves. Any of the following are suitable, PVC gloves. Butyl gloves. Nitrile gloves. Rubber gloves.

Eye protection: Safety goggles. Face-shield. Ensure eye bath is to hand.

Skin protection: * Protective clothing. Wear full chemical suit. Wear wellingtons. Ensure safety shower is to hand.

Environmental: * No special requirement.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Powder

Colour: Colourless to white.

Odour: Odourless

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Soluble

Boiling point/range°C: Decomp. @ 680

Melting point/range°C: * 229

Part.coeff. n-octanol/water: * 2.2

Vapour pressure: < 10 Pa

Relative density: ~3.3 g/ml @ 15 oC

pH: 4 - 6 (5 % solution)

9.2. Other information

Other information: * Product is not flammable. No further information available at this time.

[cont...]

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat. Hot surfaces. Moist air. Humidity. Moisture.

10.5. Incompatible materials

Materials to avoid: * Alkalis. Carbonates Hydroxides Lead Borax Calcium Strontium salts Silver protein & tannins

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes of sulphur oxides.

Section 11: Toxicological information

11.1. Information on toxicological effects

*** Toxicity values:**

Route	Species	Test	Value	Units
DERMAL	RAT	LD50	> 2000	mg/kg
ORAL	RAT	LD50	> 574	mg/kg

Hazardous ingredients:

ZINC SULPHATE

IVN	RAT	LD50	69900	µg/kg
ORL	MUS	LD50	245	mg/kg
ORL	RAT	LD50	1710	mg/kg

Relevant hazards for substance:

Hazard	Route	Basis
Acute toxicity (ac. tox. 4)	ING	Based on test data
Serious eye damage/irritation	OPT	Based on test data

Symptoms / routes of exposure

Skin contact: * There may be mild irritation at the site of contact. Defatting, drying and cracking of the skin may occur.

[cont...]

Eye contact: * Risk of serious damage to eyes. There may be irritation and pain. Corneal burns may occur. May cause mechanical irritation to the eyes.

Ingestion: * Harmful if swallowed. Moderately toxic, although there is very low risk during normal industrial use. May cause irritation of the gastrointestinal tract. Nausea and stomach pain may occur. There may be vomiting and diarrhoea. Damage to liver and kidneys may develop later.

Inhalation: * May cause irritation of the mucous membranes and respiratory system. May cause shortness of breath, sneezing and coughing. Prolonged or repeated exposure may cause ulceration and perforation of the nasal septum. Absorption through the lungs can occur causing symptoms similar to those of ingestion.

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

Other information: * There is no further information at this time.

Section 12: Ecological information

12.1. Toxicity

*** Ecotoxicity values:**

Species	Test	Value	Units
GREEN ALGA (Selenastrum capricornutum)	72H IC50	3.73	mg/l
DAPHNIA	48H EC50	0.15	mg/l
FISH	24H LC50	1.24	mg/l
FISH	48H LC50	2.4 - 5.0	mg/l

12.2. Persistence and degradability

Persistence and degradability: * The product is inorganic so can not be biodegradable, however it is expected to degrade or disassociate.

12.3. Bioaccumulative potential

Bioaccumulative potential: * The product does not bioaccumulate.

12.4. Mobility in soil

Mobility: * Non-volatile. Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT substance.

12.6. Other adverse effects

Other adverse effects: * Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Do not allow to enter watercourses or soils. Spillage in sewers or waterways must be avoided.

Section 13: Disposal considerations

[cont...]

13.1. Waste treatment methods

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

Recovery operations: * No information available at this time.

Disposal of packaging: Contaminated containers must not be treated as household waste. Where practical, containers and packaging should be recycled by a licenced contactor.

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

Section 14: Transport information

14.1. UN number

UN number: UN3077

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC SULPHATE)

14.3. Transport hazard class(es)

Transport class: 9

14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: Yes **Marine pollutant:** Yes

14.6. Special precautions for user

Special precautions: No special precautions.

Tunnel code: E

Transport category: 3

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

Transport in bulk: Not Applicable.

Section 15: Regulatory information

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

Specific regulations: * This product is a Seveso category/named substance in Annex I of Council Directive 96/82/EC.

15.2. Chemical Safety Assessment

Chemical safety assessment: * A chemical safety assessment has been carried out for the substance or the mixture by the supplier.

[cont...]

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

There are no exposure levels set for the specific product thus the following levels should be adhered to,

Total Inhalable Dust (8 hr TWA): 10 mg/m-3 Respirable Dust (8 hr TWA): 4 mg/m-3

Phrases used in s.2 and 3: H302: Harmful if swallowed.

H318: Causes serious eye damage.

H410: Very toxic to aquatic life with long lasting effects.

R22: Harmful if swallowed.

R41: Risk of serious damage to eyes.

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Legal 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.