



Impact

Enhance 0-0-0 + 39% CaO

Material Safety Data Sheet

Issue: 03 - Sep 2016

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

1.1 Product Identifier Impact Enhance 0-0-0 + 39% CaO

1.2. Relevant identified uses of the substance or mixture and uses advised against
Relevant uses: Use as a professional use fertiliser.

1.3. Details of the supplier of the safety data sheet

Company: Indigrow Ltd, The Old Bakery, Hyde End Lane, Brimpton, Berkshire, RG7 4RH. UK.
Phone: +44 (0) 1189 710 995
Email: growth@indigrow.com

1.4. Emergency telephone number +44 (0) 7725 962 366

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]:

This substance is not classified as hazardous according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]T

Classification according to Directive 67/548/EEC:

This substance is not classified as dangerous according to 67/548/EEC

2.2. Label elements

Labelling according Regulation (EC) N° 1272/2008 [CLP]:

This substance is not labelled according to Regulation (EC) N° 1272/2008 [CLP]

2.3. Other hazards

Not applicable

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Identification	Chemical Name/Classification	Concentration
CAS: 7778-18-9	Anhydrous Calcium Sulphate	96%
EC: 231-900-3	Directive 67/548/EC -	
Index: Non-applicable	Regulation 1272/2008 -	
REACH: 01-2119444918-29-0010		

3.2. Mixture

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

General notes: No adverse effects are expected during normal use of the substance, however if any effects do appear the following recommendations apply.

Skin contact: If some discomfort appears immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.



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Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Ingestion:	Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation:	Following inhalation of large quantities of dust remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Notes for the doctor:	Skin – friendly neutral salt. No allergic reactions known. Soluble dust.

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

Non-applicable

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

Not applicable

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media for the surrounding fire should be used.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Non-applicable.

5.3. Advice for fire-fighters

Product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate area of leak or spill. Wear appropriate personal protective equipment. Avoid generation of dust. Special danger of slipping by leaking/spilling product.

6.2. Environmental precautions

No special environmental measures are necessary.

6.3. Methods and material for containment and cleaning up

For containment: All containment for dry substances suitable

For cleaning up: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal

6.4. Reference to other sections

Non-applicable

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Protective measures:

Avoid:

Measures to prevent fire:

Measures to prevent aerosol and dust generation:

Measures required to protect the environment:

No special provisions if the product is used appropriately.

Dust dispersion. Inhalation of dust/particles. Eye contact.

Product itself does not burn. No special fire protection measures are necessary.

If technically possible use local exhaust ventilation.

No special provisions if the product is used appropriately



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Advice on general occupational hygiene:

Do not to eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities

Packaging materials: Keep/store only in original container.
 Requirements for storage rooms and vessels: None.
 Hints on storage assembly: None. Storage under cover, protected from the weather and in particular moisture. Store the product in closed containers in order to protect from moisture.
 Storage class: Non-combustible solids.
 Further information on storage conditions: Storage according to BREF "Emissions from Storage"

7.3. Specific end use(s)

None

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Occupational exposure limits:

Substance	Limit value	
	Eight hours (mg/m ³)	Short term (mg/m ³)
Dust, respirable	4	-
Dust, inhalable	10	20
Calcium Sulphate	10 respirable aerosol	10 respirable aerosol
Dust, mineral, respirable	5	10

Biological limit values: None.

Appropriate engineering controls: Local exhaust ventilation for indoor use. Chimney filters for industrial use.

Additional exposure limits under the conditions of use:

DNEL:

Exposure route:

Inhalation:	Acute systemic effects:	DNEL (workers): 5082 mg/m ³
	Long term systemic:	DNEL (workers): 21.17 mg/m ³
Inhalation:	Acute systemic effects:	DNEL (general population): 3811 mg/m ³
	Long term systemic:	DNEL (general population): 5.29 mg/m ³
Oral:	Acute systemic effects:	DNEL (general population): 11.4 mg/kg bw/day
	Long term systemic:	DNEL (general population): 1.52 mg/kg bw/day

PNEC:

Aquatic: Not acutely toxic to fish, invertebrates, algae and microorganisms at the concentrations tested in the studies. Acute toxicity of calcium sulfate to fish, invertebrates, algae and microorganisms are generally greater than the highest concentrations tested and are greater than the maximum solubility of calcium sulfate in water.

Sediment: Not applicable due to ubiquitous nature of calcium and sulfate ions in the environment

Soil: Not applicable due to ubiquitous nature of calcium and sulfate ions in the environment

STP: 100 mg/l



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8.2. Exposure controls

Engineering measures:	The working places must be properly aired. When possible, install local aspirators and efficient system of total air replacement. If these measures are not sufficient to keep the particle concentrations below the exposure limits, it will be necessary to use suitable respiratory protection apparatus.
Respiratory protection:	If the conditions of use generate dust, use approved respiratory protection with filter P2.
Hand protection:	Wear protective gloves of textile/leather.
Eye protection:	Safety glasses with full side shields or goggles are recommended.
Skin protection:	Normal work clothes
Control of the environmental exposure:	Do not disperse the product in the environment

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid. Crystalline Powder
Odour:	neutral
pH (20 °C):	not applicable
pH in aqueous solution:	about pH 11
Melting point/freezing point:	1450°C
Flammability:	Not flammable
Density (g/cm ³):	2.96 g/cm ³
Bulk density (kg/m ³):	0.70 kg/dm ³
Water solubility (20°C in g/l):	about 2 g/l
Decomposition Temperature (°C):	into CaSO ₄ x ½ H ₂ O and H ₂ O about 140°C (about 413 K) into CaSO ₄ and H ₂ O about 700°C (about 973 K) into CaO and SO ₃ about 1000°C (about 1273 K)
Explosive properties:	Not explosive
Oxidizing properties:	Not oxidizing

9.2. Other information

Other information: No data available.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No materials known.

10.2. Chemical stability

The substance is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3. Possibility of hazardous reactions

Mixing with an aqueous solution of sodium carbonate will result in the formation of carbon dioxide.

10.4. Conditions to avoid

Avoid contamination by sulphur-reducing bacteria and water under anaerobic conditions.

10.5. Incompatible materials

No incompatible materials known.

10.6. Hazardous decomposition products

Decomposition takes place from temperatures above: 1450°C. Decomposition under formation of: Sulphur trioxide and calcium oxide.

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SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Relevant hazard class	Effect dose	Species	Method	Remark
Acute oral toxicity	LD50 > 1581 mg/kg bw	Rat	OECD 420	
Acute dermal toxicity	n/a			No dermal toxicity envisaged due to low potential for absorption
Acute inhalative toxicity	LC50 > 2.61 mg/l	Rat	OECD 403	Maximum attainable dose
Skin corrosion/irritation	n/a	Rabbit	OECD 404	Not irritating
Serious eye damage/irritation	n/a	Rabbit	OECD 405	Not irritating
Respiratory or skin sensitization	n/a	Guinea Pig	OECD 406	Not a skin sensitizer
Germ cell mutagenicity	n/a	In vitro tests Mouse	OECD 471 OECD 476 OECD 474	Not mutagenic Not mutagenic
Carcinogenicity	n/a			No risk of carcinogenicity posed by calcium sulphate
Reproductive toxicity	NOAEL 790 mg/kg bw	Rat	OECD 422	No signs of reproductive toxicity observed
STOT single exposure	n/a			No organ toxicity observed in acute tests
STOT repeated exposure	n/a			It is considered to classify based on RCS content. STOT RE 2 (If calcium sulfate contains crystalline silica in respirable form >1 % - < 10 %.)
Aspiration hazard	n/a			No aspiration hazard envisaged

11.2. Other Information

No data available.

SECTION 12: Ecological Information

12.1. Toxicity

Aquatic toxicity	Effect dose	Exposure time	Species	Method	Evaluation	Remark
Acute fish toxicity	LC50 > 79 mg/l	96 h	Japanese rice fish	OECD 203	Harmless up to tested concentration.	LIMIT Test
Acute daphnia toxicity	EC50 > 79 mg/l	48 h	Daphnia magna	OECD 202	Harmless up to tested concentration.	LIMIT Test
Acute algae toxicity	E50 > 79 mg/l	72 h	Selenastrum capricornutum	OECD 201	Harmless up to tested concentration.	LIMIT Test
Toxicity to STP microorganisms	EC50 > 79 mg/l	3 h	Activated sludge	OECD 209	Harmless.	

After neutralisation, toxicity is no longer observed. The product can hydrolyse into Calcium and Sulfate Ions. The stated effect can be caused partly by the decomposition products. The ecological data were measured on the hydrolysed product.



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12.2. Persistence and degradability

Abiotic Degradation: Physical- and photo-chemical elimination: The product hydrolyses quickly in the presence of water to Calcium and Sulfate Ions. The individual components are poorly eliminated from water. No photo-chemical elimination.

Biodegradation: The methods for determining the biological degradability are not applicable to inorganic substances. Inorganic product which is not eliminable from water through biological cleaning processes.

12.3. Bioaccumulative potential

Based on the n-octanol/water partition coefficient significant accumulation in organisms is not expected. No indication to bioaccumulation potential. The ecological data were measured on the hydrolysed product. According to experiences this product is inert and not degradable biologically.

12.4. Mobility in soil

Water-soluble solid. Natural constituent in soils. If product enters soil, it will be mobile and may contaminate groundwater.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment". On the basis of existing data about the elimination/degradation and bioaccumulation potential longer term damage to the environment is unlikely. The information about ecology refer to the main components.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Unused product, residues deriving from its use and empty packages have to be disposed according to the rules in force. During handling adopt the precaution measures indicated in section 7 and 8.

SECTION 14: Transport Information

This product is not regulated for transport (ADR/RID,IMDG,IATA)

SECTION 15: Regulatory Information

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

Labelling under directives 1272/2008 (EC) and 790/2009 and subsequent amendments: Non applicable

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.



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16. OTHER INFORMATION

The information contained herein relates only to the designated formulation and may not be valid if product is used in combination with other substances. The information is to the best of our knowledge, belief and understanding, true, accurate and reliable at the date of issue. However, the information may neither be exhaustive or complete, and no warranty, guarantee or liability concerning the accuracy or completeness of the information is expressed or implied. It is the user's risk and sole responsibility to verify and satisfy their own criteria and duty of care concerning the validity of the information in relation to their application of the product.

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