

SAFETY DATA SHEET

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

1.1 Product Identifier:

InCa[®]

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

Use as a professional use fertiliser

1.3 Details of the manufacturer:

PI Bioscience Limited
Rothamsted
West Common
Harpenden
Hertfordshire
AL5 2JQ

Phone number: +44 (0)1582 465540

Email: info@plantimpact.com

1.4 Emergency Phone number:

+44 (0)1582 465540

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Acute Toxicity 4: H302 Harmful if swallowed.

Eye Damage 1: H318 Causes serious eye damage.

Aquatic Chronic 3: H412 Harmful 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, R22; Harmful, Harmful if swallowed

Xi, R41; Irritant, risk of serious damage to eyes

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

Primary Hazard

Harmful if swallowed. Causes serious damage to eyes.

2.2 Label Elements

InCa®

(contains: Calcium nitrate E.C. 233-332-1, Zinc nitrate E.C. 231-943-8)



Signal word: Danger

Hazard Statements:

H302: Harmful if swallowed.

H318: Causes serious eye damage.

H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements

P280: Wear protective gloves and eye protection.

P270 Do not eat, drink or smoke when using this product.

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.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

2.3 Other Hazards

None Known









3. Composition/information on ingredients





Product Code: InCa®

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No./ EINECS-No.	Annex Index or REACH number	Symbol(s)	R-phrases(s)	Concentrations [%]

Calcium nitrate	15245-12-2/ 239-289-5	Reach registration number: 01-2119493947-16	<p>According to 1272/2008: GHS05</p>  <p>GHS07</p>  <p>According to 67/548/EEC:</p>  <p>HARMFUL</p>  <p>IRRITANT</p>	<p>According to 1272/2008: Acute tox. 4 H302 Eye Damage 1 H318</p> <p>According to 67/548/EEC: R22, R41</p>	25.0 – 30.0
Zinc nitrate hexahydrate	7779-88-6/ 231-943-8	-	<p>According to 1272/2008: GHS03</p>  <p>GHS07</p>  <p>GHS09</p>  <p>According to 67/548/EEC:</p>  <p>OXIDISING</p>	<p>According to 1272/2008: Oxid. Solid 2 H272: Acute Tox. 4 H302: Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT Single Exp. 3 H335: Aquatic Acute 1 H400: Aquatic Chronic 2 H411: (M-factor: 1)</p> <p>According to 67/548/EEC: R8 R22 R36/37/38 R51/53</p>	< 4.0

			 IRRITANT  DANGEROUS FOR THE ENVIRONMENT		
Ethanol	64-17-5/ 200-578-6	Reach registration number: 01- 2119457610- 43 Annex no. 603-002-00-5	According to 1272/2008:  According to 67/548/EEC: 	According to 1272/2008: Flam. Liquid 2 H225 According to 67/548/EEC: R11	<3.0

The full text and symbols for all hazard information if not displayed in section 2 or 3 are displayed in Section 16.

4. First Aid Measures

4.1 Description of first aid measures

4.1.1 Inhalation

If symptoms arise remove from source of exposure to fresh air; seek medical attention if symptoms persist/develops.

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/develop.

Eyes: Immediately 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.

4.2 Most important symptoms and effects, both acute and delayed

Information not available

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 also 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

Personal protective equipment is not specified as the mixture is not classified as dangerous to humans or the environment.

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) in large quantities 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

7. Handling and storage

7.1 Precaution for safe handling

Open container with care. Avoid contact with skin and eyes. Wash Hands thoroughly after handling. Do not eat, drink or smoke when using this product

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 Information available

8. Exposure controls/personal protection

8.1 Control Parameters

Exposure limit values have not been determined for this mixture

8.2 Exposure controls

Considered for handling bulk concentrate

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

Gloves – BS EN374 – chemical protection: physical barrier protection only

Suitable engineering controls should be in place for measuring and decanting of product.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance; Brown liquid

Odour; No Information available

pH; 2.0 – 2.5

Melting point/freezing; No Information available

Initial boiling point and boiling range; Not applicable for powdered product

Flash point; Mixture not classed as Flammable

Flammability (solid, gas); mixture not classed as flammable

Explosive Properties; Mixture not classed as explosive

Oxidising Properties; Mixture not classed as oxidising

Vapour Pressure; Not applicable for powdered product

Vapour density; Not applicable for powdered product

Specific gravity; 1.203 - 1.223

Solubility (ies); No Information available

Viscosity; No Information available

Partition coefficient: n-octanol/water; No Information available

9.2 Other Information

No other relevant information available

10. Stability and reactivity

10.1 Reactivity

Unknown

10.2 Chemical Stability

Stable under normal conditions of use

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

11. Toxicological Information

11.1 Information on toxicological effects

This mixture has not been assessed for toxicological effects as the mixture is not classified as dangerous based on its individual components.

Toxicological information on hazardous ingredients:

Calcium nitrate:

Acute toxicity:

LD50 Oral Rat: > 300 mg/kg

LD50 Dermal Rat > 2,000 mg/kg

Conclusion: Harmful if swallowed

Irritation/Corrosion:

Eyes - Severe irritant

Rabbit 24 - 72 h 21 d

Conclusion/Summary:

Skin: Non-irritating to the skin.

Eyes: Causes serious eye damage.

Respiratory: Non-irritating to the respiratory system.

Sensitization:

Conclusion/Summary

Skin: Not sensitizing

Respiratory: Not determined.

Mutagenicity:

Conclusion/Summary: No mutagenic effect.

Carcinogenicity

Conclusion/Summary: No carcinogenic effect.

Teratogenicity

Conclusion/Summary: No known significant effects or critical hazards.

Reproductive toxicity:

Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Negative	Negative	Negative	Rat	Oral: 1500 mg/Kg	53 days

Conclusion/Summary: No known significant effects or critical hazards.

Information on the likely routes of exposure: not available

Potential acute health effects:

Inhalation: May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion: Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact: No known significant effects or critical hazards.

Eye contact: Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No specific data.

Ingestion: Adverse symptoms may include the following: stomach pains

Skin contact: Adverse symptoms may include the following: pain or irritation redness blistering may occur

Eye contact: Adverse symptoms may include the following: pain, watering, redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Long term exposure

Potential immediate effects: Adverse health effects are considered unlikely, when the product is used according to directions.

Potential delayed effects: None identified.

Potential chronic health effects:

Product / ingredient name	Result	Species	Dose	Exposure
Nitric acid, ammonium calcium salt	Sub-acute NOAEL Oral	Rat	> 1000 mg/Kg	28 days

Conclusion/Summary: Not toxic.

General: No known significant effects or critical hazards.
Carcinogenicity: No known significant effects or critical hazards.
Mutagenicity: No known significant effects or critical hazards.
Teratogenicity: No known significant effects or critical hazards.
Developmental effects: No known significant effects or critical hazards.
Fertility effects: No known significant effects or critical hazards.

Toxicokinetics

Absorption: Rapidly absorbed.
Distribution: Enters the systemic circulation without passing through liver tissues.
Metabolism: Rapidly metabolized. Metabolized to the following:
Ca²⁺
NH₄⁺
NO₃⁻

Elimination: Excreted via the urine. The chemical and its metabolites are fully excreted and do not accumulate within the body.

Zinc nitrate:

Acute toxicity: Harmful if swallowed.

LD50 oral rat	300 - 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg Hamster : EC50 4h : 4,5 mg/m ³ ;
LC50 inhalation rat (mg/l)	2000 g/m ³ (10 min)
ATE (oral)	500,000 mg/kg bodyweight
ATE (dermal)	1100,000 mg/kg bodyweight
ATE (dust,mist)	1,500 mg/l/4h
ATE (oral)	500,000 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
pH: 4 (25 °C)
Serious eye damage/irritation : Causes serious eye irritation.
pH: 4 (25 °C)
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Germ cell mutagenicity (in vivo rat) : Positive
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause respiratory irritation.

NOAEL (oral,rat) NOEL : 3000 ppm
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard : Not classified

Ethanol:

Acute toxicity:
Acute Toxicity (Oral LD50) > 2000 mg/kg Rat Low toxicity
Acute Toxicity (Dermal LD50) > 2000 mg/kg Rabbit Low toxicity
Acute Toxicity (Inhalation LC50) > 20 mg/l (vapours) Mouse 4 hours Low toxicity

Skin Corrosion/Irritation:
Not irritating.

Serious eye damage/irritation:
Irritating

Respiratory or skin sensitisation:
Skin sensitisation

Guinea pig maximization test (GPMT): Guinea Pig
Not Sensitising.

Germ cell mutagenicity:
Negative.

Carcinogenicity:
This substance has no evidence of carcinogenic properties.

Reproductive Toxicity:
This substance has no evidence of toxicity to reproduction.

Specific target organ toxicity - repeated exposure:
STOT - Repeated exposure
NOAEL 1730 mg/kg Oral Rat

Aspiration hazard:

General information

Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation

Vapours may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness. Prolonged inhalation of high concentrations may damage respiratory system. In high concentrations, vapours are narcotic and may cause headache, fatigue, dizziness and nausea. Contains organic solvents which in case of overexposure may depress the central nervous system causing dizziness and intoxication. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia. When working extensively on big surfaces in small and badly ventilated rooms, vapours may develop in concentrations which may cause headache and irritation of the eyes and the respiratory system.

Ingestion

Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract. Irritating. May be absorbed in the body and cause dizziness, nausea and vomiting. Swallowing concentrated chemical may cause severe internal injury. Pneumonia may be the result if vomited material containing solvents reaches the lungs.

Skin contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Risk of sensitisation or allergic reactions among sensitive individuals.

Eye contact

Extreme irritation of eyes and mucous membranes, including burning and tearing. Risk of serious damage to eyes. Risk of corneal damage.

Route of entry

Inhalation. Ingestion. Skin and/or eye contact.

Target Organs

Central nervous system Eyes Gastro-intestinal tract Skin

Medical Symptoms

Extreme irritation of eyes and mucous membranes, including burning and tearing. Visual disturbances, incl. blurred vision. Nausea, vomiting. Headache.

Medical Considerations

History of alcoholism.

Specific effects

Ingestion over a long period of time may cause damage to the liver and nervous system.

12. Ecological Information

12.1 Toxicity

Classified as Harmful to aquatic life with long lasting effects to the environment in accordance with the CHIP regulations 2009 and 1999/45/EC.

12.2 Persistence and degradability

Information not available

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

13. Disposal considerations

13.1 Waste Treatment Methods

Use only licensed waste disposal companies for unwanted chemical. Do not re-use empty containers for any purpose, dispose of packaging in accordance with local regulations.

14. Transport Information

14.1 UN number: Product is unclassified for transport

14.2 UN proper shipping name: Product is unclassified for transport

14.3 Transport hazard Product is unclassified for transport

14.4 Packing group: Product is unclassified for transport

14.5 Environmental hazards: Product is unclassified for transport

14.6 Special precautions for user: Product is unclassified for transport

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.

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

16. Other Information

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

R8: Contact with combustible material may cause fire.

R11: Highly flammable.

R36/37/38: Irritating to eyes, respiratory system and skin.

H225: Highly flammable liquid and vapour.

H272: May intensify fire; oxidizer.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H400: Very toxic to aquatic life.

H411: Toxic to aquatic life with long lasting effects.

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.