

CRYOGEL Z

1. IDENTIFICATION OF SUBSTANCE

Product details

Product Identifier	CRYOGEL® Z
CAS No.	Not applicable
EC No.	Not applicable
Index No.	Not applicable
Synonym (s)	Silica aerogel material
REACH Registration Number	Not applicable. Aerogel insulation blankets are considered to be an article, not a substance or mixture, under the REACH Regulation.
Relevant identified uses and uses advised against:	Industrial and Professional High performance insulation material with foil laminate.
Consumer:	Not applicable.
Avoid any use:	None reported.

Identification of the suppliers

INSULCON B.V.	KERAMAB N.V.	INSULCON GMBH
P.O. Box 134	Belgium	Germany
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2. HAZARDS IDENTIFICATION

Classification (EC 1272/2008)	Product is not classified as a hazardous material.
Classification (1999/45/EC / CHIP)	Product is not classified as a hazardous material.
Label Elements:	No pictogram required
Signal Word	Not applicable
Hazard Statements	Not applicable
Precautionary Statements	Not applicable
Supplemental information	None reported.
Other hazards	Dust from the product when handling and in use may cause mechanical irritation to the respiratory tract, eyes and skin. Not classified as PBT or vPvB, based on the assessment carried out according to Annex XIII of REACH regulation.

NFPA HAZARD CLASSIFICATION		HMIS HAZARD CLASSIFICATION	
Health	1	Health	1
Flammability	1	Flammability	1
Reactivity	0	Reactivity	0
Other	Not applicable	Protection	Please refer to Section 8.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	EC No	REACH Reg No	Classification	Conc'n %
*Methylsilylated silica (synthetic amorphous silica)	68909-20-6	272-697-1	Not registered	Not classified	40-50
Polyethylene terephthalate (PET or polyester)	25038-59-9	-	Not registered	Not classified	10-20
*Fibrous glass (textile grade)	-	-	Not registered	Not classified	10-20
*Magnesium hydroxide	1309-42-8	215-170-3	Not available	Not classified	0-5
*Aluminium foil	7429-90-5	231-072-3	Not available	Not classified	0-5
Other components are either not classified or are below the concentration limit for classification. Balance					
Further information *CONTAINS A SUBSTANCE WITH AN OCCUPATIONAL EXPOSURE LIMIT Key to abbreviations, hazard statements and risk phrases in Section 16.					

4. FIRST AID MEASURES

Description of first aid measures

Take measures to avoid further contamination or contact. Remove contaminated clothing immediately, to be washed before reuse.

Inhalation

Remove to fresh air. Drink water to clear throat and blow nose to remove dust. If necessary seek medical advice

Skin contact

Clean areas of skin affected with soap and plenty of water.

Eye contact

In case of contact with eyes, rinse immediately with plenty of water until irritation subsides. If necessary (e.g. irritation persists), consult an eye specialist / ophthalmologist.

Ingestion

No first aid treatment required.

Most important symptoms and effects, both acute and delayed

Irritation of the throat and upper respiratory tract, irritation of skin and eyes.

Inhalation of excessive amounts of dust from the product may cause mechanical irritation to the respiratory tract. Dermal contact may aggravate existing dermatitis.

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Indication of any immediate medical attention and special treatment needed

None reported.

5. FIRE-FIGHTING MEASURES

General hazard

THE PRODUCT IS NON-COMBUSTIBLE

Extinguishing media

To suit local surroundings (e.g. water spray, carbon dioxide, foam, chemical powder)

Extinguishing media not to be used

None reported.

Special hazards arising from the substance or mixture

Decomposition products released in a fire, (e.g. oxides of carbon), should be considered toxic if inhaled. Rolls of material can retain heat within internal layers causing re-ignition in the presence of oxygen if heat is not removed.

Advice for fire-fighters

Wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Adhere to personal protective measures. Minimize dust generation and ensure adequate ventilation.

Environmental precautions

Do not allow to get into waste water or waterways; if this occurs, inform the relevant water authority at once

Methods and materials for containment and cleaning up

Take up mechanically (e.g. vacuum up) into tightly closable containers. Label container and dispose of as prescribed.

Reference to other sections

Section 8 – personal protective measures

Section 13 – disposal of waste

7. HANDLING AND STORAGE

Precautions for safe handling

Handle in accordance with good hygiene and safety practice. Unpack material in the work area to minimize the area where dust exposure may occur. Pack trimmed material and scrap in disposal bags promptly.

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Conditions for safe storage, including any incompatibilities

Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool and dry. Keep product in packaging until ready for use.

Specific end use(s)

Industrial and Professional:

Ensure safe systems of work or equivalent arrangements are in place to manage risks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters	Monitoring of the workplace should be considered in accordance with Community Exposure Limits or other data as indicated below.				
LTEL (TWA): - ppm	15	mg/m ³	PEL data for silica, amorphous, total dust, OSHA		
LTEL (TWA): - ppm	5	mg/m ³	PEL data for silica, amorphous, respirable fraction, OSHA		
LTEL (TWA): - ppm	10	mg/m ³	Data for silica, amorphous, inhalable, ACGIH		
LTEL (TWA): - ppm	3	mg/m ³	Data for silica, amorphous, respirable, ACGIH		
LTEL (8 hour TWA): - ppm	6	mg/m ³	WEL data for silica, amorphous, inhalable dust EH40 (2005)		
LTEL (8 hour TWA): - ppm	2.4	mg/m ³	WEL data for silica, amorphous, respirable dust EH40 (2005)		
LTEL (8 hour TWA): - ppm	4	mg/m ³	Data for silica, amorphous, inhalable fraction,		
LTEL (TWA): 1.0 fibers/cc	-	mg/m ³	Data for continuous filament glass fibers, ACGIH		
LTEL (TWA): - ppm	5	mg/m ³	Data for continuous filament glass fibers, inhalable, ACGIH		
LTEL (TWA): - ppm	10	mg/m ³	Data for continuous filament glass fibers, total dust, OSHA		
LTEL (TWA): - ppm	5	mg/m ³	Data for continuous filament glass fibers, respirable fraction, OSHA		
LTEL (TWA): - ppm	15	mg/m ³	PEL data for magnesium hydroxide, total dust, OSHA		
LTEL (TWA): - ppm	5	mg/m ³	PEL data for magnesium hydroxide, respirable fraction, OSHA		
LTEL (TWA): - ppm	10	mg/m ³	Data for magnesium hydroxide, inhalable, ACGIH		
LTEL (TWA): - ppm	3	mg/m ³	Data for magnesium hydroxide, respirable, ACGIH		
LTEL (TWA): - ppm	15	mg/m ³	PEL data for aluminium, total dust, OSHA		
LTEL (TWA): - ppm	5	mg/m ³	PEL data for aluminium, respirable fraction, OSHA		
LTEL (TWA): - ppm	10	mg/m ³	Data for aluminium, inhalable, ACGIH		
LTEL (TWA): - ppm	3	mg/m ³	Data for aluminium, respirable, ACGIH		
LTEL (8 hour TWA): - ppm	10	mg/m ³	WEL data for aluminium, inhalable dust EH40 (2005)		
LTEL (8 hour TWA): - ppm	4	mg/m ³	WEL data for aluminium, respirable dust EH40 (2005)		

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Acute / short-term	16.67	mg/kg bw/day	DNEL, systemic, dermal, data for magnesium hydroxide
	117.54	mg/m ³	DNEL, systemic, inhalation, data for magnesium hydroxide
Long-term	16.67	mg/kg bw/day	DNEL, systemic, dermal, data for magnesium hydroxide
	117.54	mg/m ³	DNEL, systemic, inhalation, data for magnesium hydroxide
Aqua (freshwater)	0.1	mg/l	PNEC, data for magnesium hydroxide
Aqua (marine water):	0.01	mg/l	PNEC, data for magnesium hydroxide
Aqua (intermittent releases)	1	mg/l	PNEC, data for magnesium hydroxide
STP	1	mg/l	PNEC, data for magnesium hydroxide
Sediment (freshwater)	0.08188	mg/kg	PNEC, data for magnesium hydroxide
Sediment (marine water)	0.008188	mg/kg	PNEC, data for magnesium hydroxide
Soil	0.01912	mg/kg	PNEC, data for magnesium hydroxide

Engineering controls

Provide local exhaust ventilation.

Personal protection

Observe normal standards for handling chemicals. Avoid breathing dust. Avoid eye and skin contact. Wash hands before breaks and after work. Wear personal protective equipment appropriate to the task (see below).

Eye protection

Safety glasses or chemical goggles

Skin protection

Nitrile gloves Disposable coveralls

Respiratory protection

Dust masks, NIOSH or CE-approved respirator or air fed visor (if ventilation is insufficient).

Other personal protection

None reported.

Environmental exposure controls

Do not allow to get into waste water or waterways.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Fabric blanket with foil laminate
Colour:	White
Odour:	Faint ammonia
Odour threshold:	0.6-53 ppm
Molecular weight:	Not applicable
Molecular formula:	Not applicable
pH:	Not applicable
Boiling Point/Range:	Not applicable
Flash point	Not applicable
Relative Evaporation Rate (n-Butyl Acetate = 1)	Not applicable
General Flammability	NON-COMBUSTIBLE
Flammability/explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour Density	Not applicable
Relative Density	Not applicable
Solubility	Insoluble in water
Partition coefficient (log P or log K n-octanol / water)	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable
Other information	None reported

10. STABILITY AND REACTIVITY

Reactivity	The product is hydrophobic and repels water.
Chemical stability	Stable under normal conditions of handling
Possibility of hazardous reactions	None reported.
Conditions to avoid	Prolonged exposure to temperatures above the recommended use temperatures.
Incompatible materials	None reported.
Hazardous decomposition products	None reported.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects	Information refers to dust that may be produced when product is used. Target organs: respiratory system, eyes, skin. Routes of exposure: inhalation, eye and skin contact.
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Acute toxicity - oral	LD ₅₀	>5,000mg/kg	Data for synthetic amorphous silica
	LD ₅₀ (rat)	>2000mg/kg	Data for magnesium hydroxide
Acute toxicity – inhalation	LC ₅₀	>2,000mg/m ³	Data for synthetic amorphous silica
	LC ₅₀ (rat)	>2.1mg/l/4H	Data for magnesium hydroxide
Acute toxicity - dermal	LD ₅₀	>3,000mg/kg	Data for synthetic amorphous silica
Skin corrosion/irritation	Dust may cause irritation and dryness to skin.		
Serious eye damage/irritation	Dust may cause irritation and dryness to eyes.		
Respiratory sensitisation	None reported for product.		
Skin sensitisation	None reported for product.		
CMR effects	Carcinogenicity: Data conclusive, but not sufficient for classification.		

Component	ACGIH	NTP	IARC
Continuous Filament Glass Fibers	A4	Not Listed	3
Amorphous silica	NA	Not Listed	None
Magnesium hydroxide	NA	Not Listed	None
Aluminium foil	NA	Not Listed	None

Mutagenicity:	Data conclusive, but not sufficient for classification.
Reproductive toxicity:	Data conclusive, but not sufficient for classification.
Single dose toxicity	No data available for product.
Repeated dose toxicity	No data available for product
Aspiration hazard	None reported.
Adverse health effects and Symptoms	Excessive inhalation of dust may aggravate pre-existing chronic lung conditions including, but not limited to, bronchitis, emphysema, and asthma. Dermal contact may cause mechanical irritation.
Other information	None reported.

12. ECOLOGICAL INFORMATION

Toxicity	Product is insoluble and inert.	
Fish, acute		
LC50 (Danio rerio)	>10,000 mg/l/96H	Data for synthetic amorphous silica
LC50 (Onchorinchus mykiss)	775.8mg/l/96H	Data for magnesium hydroxide
Fish, chronic	No data available for product.	

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Invertebrates

EC₅₀ (Daphnia magna) >10,000 mg/l/24H Data for synthetic amorphous silica
EC₅₀ (Daphnia magna) 284.76mg/l/48H Data for magnesium hydroxide

Algae

EC₅₀ (Pseudokirchneriella subcapitata)>100mg/l/72H Data for magnesium hydroxide

Soil organisms

No data available for product.

Micro-organisms

EC₅₀ (activated sludge) >100mg/l/3H Data for magnesium hydroxide

Other organisms

No data available for product.

Persistence and degradability

Not applicable for inorganic material.

Bioaccumulative potential

None expected due to insoluble nature of product.

Mobility in soil

None expected due to insoluble nature of product.

Results of PBT and vPvB assessment

Not classified, based on the assessment carried out according to Annex XIII of REACH regulation.

Other adverse effects

None reported.

13. DISPOSAL CONSIDERATION

Waste treatment methods

In accordance with national (i.e. Hazardous Waste Regulations) and local authority regulations.
Avoid generation of dust and use appropriate control measures (see Section 8).
Do not allow to get into waste water or waterways.

14. TRANSPORT INFORMATION

Land transport (ADR/RID)

The product is not classified for transport.

UN number

UN proper shipping name

Transport hazard class(es)

Packing group

Environmental hazards

Special precautions for user

Emergency action code

Hazard Identification Number

Marine transport (IMDG)

The product is not classified for transport.

UN number

UN proper shipping name

Transport hazard class(es)

Packing group

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Environmental hazards

Special precautions for user

Air transport (ICAO/IATA)

The product is not classified for transport.

UN number

UN proper shipping name

Transport hazard class(es)

Packing group

Environmental hazards

Special precautions for user

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for product

US:

Toxic Substances Control Act (TSCA)

Comprehensive Response Compensation, and Liability Act (CERCLA)

Superfund Amendments And Reauthorization Act (SARA)

Canada:

Canadian Environmental Protection Act (CEPA)

Workplace Hazardous Materials Information System (WHMIS)

Europe:

Classification, Labelling and Packaging Regulation (EC) 1272/2008

United Kingdom:

Chemicals (Hazard Information and Packaging) for Supply Regulations 2009 (CHIP4)

Federal Regulations (US)

TSCA (Toxic Substances Control Act) Section 8b – Inventory Status:

All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

TSCA (Toxic Substances Control Act) Section 12b – Export Notification:

All chemicals comprising this product are not subject to TSCA Section 12b export notification.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT)

Product is not classified as hazardous or reportable under this requirement.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

Product is not classified as hazardous or reportable under this requirement.

Section 311/312 HAZARD CATEGORIES

Materials in this product are classified as hazardous or reportable under this requirement.

Section 313 REPORTABLE INGREDIENTS

Materials in this product are not classified as hazardous or reportable under this requirement.

State Regulations (US)

Materials in this product appear on the following state hazardous substance lists:

CA, IN, KY, MA, MN, NC, NJ, OR, PA. Check individual state requirements.

California Proposition 65

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This product does not contain a chemical known to the state of California to cause cancer.

Chemical	CAS No	% Wt
None	Not applicable	Not applicable

International Regulations (Canada)

Controlled Products Regulations

This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Canadian Domestic Substance List (DSL)

All chemical substances in this product are exempt from, or included on, the Domestic Substances List.

WHMIS Ingredient Disclosure List

Chemical	CAS No.	% Wt
Amorphous silica	7631-86-9	≥1

International Regulations (Europe and UK)

This product is not classified as a dangerous mixture as defined in the Classification, Labelling and Packaging Regulation (EC) 1272/2008 and the Chemicals (Hazard Information and Packaging) for Supply Regulations 2009 (CHIP4).

Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Key to abbreviations and acronyms

1999/45/EC	EU Dangerous Preparations Directive
ACGIH	American Conference of Governmental Industrial Hygienists, Inc. (US)
ADR	European agreement governing the international carriage of dangerous goods by road
CAS No	Chemical Abstracts Service Registry Number
CHIP 4	The Chemical (Hazard Information and Packaging for Supply) Regulations 2009
CLP	Classification, Labelling and Packaging Regulation (EC) 1272/2008
CMR	Carcinogen, Mutagen, Reprotoxin
DNEL	Derived No Effect Level
EC50	Concentration of a material that induces a 50% effect in the test subjects
EC No	European Inventory of Chemical Substances number
ECHA	European Chemicals Agency
EH40 (2005)	HSE's list of Workplace Exposure Limits, as updated and amended
GHS	Globally Harmonised System for classification and labelling chemicals
HMIS	Hazardous Materials Identification System
HSE	Health and Safety Executive (UK)

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IARC	International Agency for Research on Cancer
LC50	Concentration of a material in air that kills 50% of the test subjects
LD50	Amount of a solid or liquid material that kills 50% of test subjects
LTEL	Long Term Exposure Limit
mg/kg	milligrams per kilogram
mg/l	milligrams per litre
mg/m ³	milligrams per cubic metre
NFPA	National Fire Protection Association
NTP	National Toxicology Program
NIOSH	The National Institute for Occupational Safety and Health (US)
OSHA	Occupational Health & Safety Administration (US)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limit
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorisation of Chemicals Regulation (EC) 1907/2006
STEL	Short Term Exposure Limit
STP	Sewage Treatment Plant
TLV	Threshold Limit Value
TRGS	Technischen Regeln für Gefahrstoffe (Technical Rules for Hazardous Substances, Germany)
TWA	Time Weighted Average
UEL	Upper Explosive Limit
vPvB	very Persistent, very Bioaccumulative
WEL	Workplace Exposure Limit
WHMIS	Workplace Hazardous Materials Identification System

Methods used to evaluate information used for classification
Annex I, Classification, Labelling and Packaging Regulation (EC) 1272/2008

Key to Hazard Statements in Section 3 Not applicable
Key to Risk Phrases in Section 3 Not applicable

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