Revision: 30.08.2012

Version 2.0

Safety data sheet

ISTRA 40 / ISTRA 45 / ISTRA 50

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

1.1 Product identifier

Calcium aluminate cement

EINECS:	266-045-5
CAS:	65997-16-2
REACH registration number:	Calcium aluminate clinker is exempted from the registration obligation (Art 2.7 (b) and Annex V.10 of the REACH Regulation (1907/2006))
Trade name:	Istra 40 / Istra 45 / Istra 50

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

Use:	Hydraulic binder for the production of building chemistry mixes and building material technology as well as for the production of refractory mortars and concretes

1.3 Details of the supplier of the safety data sheet

1.3.1 Address of the company/supplier:
CALUCEM GmbH, Willy-Brandt-Platz 6, D- 68161 Mannheim, Germany
Telephone: +49 - 621-10759-0, Fax: +49 - 621-10759-200, E-mail: info@calucem.com

1.3.2 Address of the manufacturer:
Calucem d.o.o., Revelanteova 4, Croatia / HR-52100 Pula
Telephone: +385 52 529-512, Fax: +385 52 529-505

1.4 Emergency telephone number

Emergency telephone number of manufacturer/supplier	Information Centre Specialising in Symptoms of Poisoning
Telephone: +49 -621-10759-0 (8:30 – 16:30)	Telephone: +49 761 19240

2. Hazard identification

2.1 Classification of the substance or mixture

Classification according to Regulation 1272/2008/EC:
None

Classification according to Directive 67/548/EEC:
None

2.2 Label elements

Classification according to Regulation (EC) 1272/2008: No Hazard pictograms:
Applicable exceptions:
Signal word: n.ap.
Component(s):

H phrases:
n.ap.

P phrases:
P 232: Protect from moisture.
P 261: Avoid breathing dust.
P 280: Wear protective gloves/protective clothing/eye protection/face protection.
P 305 + P 351+ P 338: IN CASE OF CONTACT WITH EYES: Rinse carefully with water for several minutes. Remove any contact lenses if possible. Continue rinsing.
P 313: Get medical advice/attention.

Additional markings: None

The above mentioned labelling is valid for distribution to industrial users.

2.3 Other hazards

Calcium aluminate cement does not meet the criteria for PBT or vPvB in accordance with Annex XIII of the REACH Regulation (EC) no. 1907/2006.
Aqueous solution can cause burns to eyes, skin and mucous membranes in susceptible persons.
Risk of mechanical damage to corneas. Dust is irritating to respiratory system.

3. Composition/information on components

3.1 Substances

Chemical name	m% range	CAS no.	EEC no.	REACH no.	Symbol	R/H phrases
Calcium aluminate clinker	> 99.5	65997-16-2	266-045-5	Exempted from Annex V.10 (EC 1907/2006)	None	n.ap.

Further information: Calcium aluminate cement contains no measurable amounts of crystalline silica (such as quartz, tridymite or christobalite). In compliance with TRGS 613 and DIN-EN 196-10, the water-soluble chromium VI content is always under 2ppm (0.0002 Ma.%).

4. First aid measures

4.1 Description of first aid measures

4.1.1 Inhalation:
Move to fresh air. If symptoms persist, seek medical advice.

4.1.2 Skin contact:
Before washing use a dry brush to remove dust from skin. Wash off with soap and water.
Consult a doctor if necessary.

4.1.3 Eye contact:
Call a doctor immediately. In case of contact with eyes, remove contact lenses.
Rinse immediately
with plenty of water, also under the eyelids, for at least 15 minutes.

4.1.4 Ingestion:
Consult a doctor. Do not induce vomiting. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. Depending on the concentration, aqueous solution causes irritation or burns to eyes, skin and mucous membranes. Risk of infection of the lung after prolonged inhalation of dust particles.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media:

Calcium aluminate cement is not combustible and is not oxidizing when mixed with other materials. Knock down dust with water spray jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire, respirable dust may be formed.

5.3 Advice for firefighters

5.3.1 Special protective equipment:
No special measures required, as calcium aluminate cement does not pose a fire hazard.

5.3.2 Additional information:
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
In contact with water: allow to solidify, remove using mechanical handling equipment.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel
Wear protective clothing, as described in section 8. Follow the instructions for safe handling, as described in section 7.

6.1.2 For emergency responders
Emergency plans are not required.
However, in case of high exposure to dust, respiratory protection is required.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system.
Do not allow material to contaminate ground water system.

6.3 Methods and material for containment and cleaning up

Shovel or sweep up. Avoid dust formation. Use breathing apparatus if dust is formed.
Never return spills to original containers for re-use.
In contact with water: allow to solidify, remove using mechanical handling equipment.

6.4 Reference to other sections

See sections 8 and 13 for further details.

7. Handling and storage

7.1 Precautions for safe handling

7.1.1 Precautions for safe handling:

Please follow the recommendations in section 8.
To remove dry cement, please observe section 6.3.

Measures to prevent fire
No special precautions required.
Normal measures for preventive fire protection.

Measures to prevent aerosol and dust generation
Scoop or sweep up carefully. If necessary, use a dry process, such as vacuum air suction.

Measures to protect the environment
No special precautions required. Please observe section 6.2.

7.1.2 Advice on general occupational hygiene:

Avoid contact with the skin and eyes.
Remove and wash contaminated clothing before re-use.
When using, do not eat, drink or smoke.
Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

7.2.1 Requirements for storage rooms and containers:
Keep tightly closed in a dry, cool and well-ventilated place.
Never allow product to come into contact with water during storage.
Keep container tightly closed.

7.2.2 Store away from:
Do not store together with strong acids and oxidizing agents.

7.2.3 Further information on storage conditions:
None

7.3 Specific end use(s)

No additional information is required for the specific end uses (see section 1.2).

8. Exposure controls/personal protection

8.1 Control parameters

National limit values		Route of exposure	Frequency of exposure	comment
General dust limit value:	3(A) mg/m^3 10 (E) mg/m^3	Inhalation	Occupational exposure limit value (TWA concentration)	TRGS 900 (reference 2)
Water-soluble chromium (VI):	2 ppm	Dermal	Short-term (acute) Long-term (repeated)	Regulation(EC) No.1907/2006

(A): Alveolar dust fraction; (E): inhalable dust fraction

8.2 Exposure controls

8.2.1 Appropriate engineering controls
Provide good ventilation and exhaust extraction at processing machinery and at places where dust can be generated.

8.2.2 Individual protection measures

8.2.2a Respiratory protection: In the case of dust formation, use a respirator with an approved filter.
Recommended filter type: P1 – P3.

8.2.2b Hand protection: Protective gloves
(Nitrile impregnated cotton, penetration time > 6h)

8.2.2c Eye protection: Tightly fitting safety goggles compliant with EN 166

8.2.2d Skin protection: Protective clothing

8.2.3 Environmental exposure controls:

Air: Keep within the dust emission limits

Water: Do not allow calcium aluminate cement to enter the sewerage system and ground water. Sewerage and ground water directives must be observed.

Soil: Observe the Federal Soil Protection Act. No special control measures necessary.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

	Istra 40	Istra 45	Istra 50
Form	Powder	Powder	Powder
Colour	Grey/brown	Grey	Light grey
Odour	Odourless	Odourless	Odourless
Odour threshold	None, as odourless		
pH (T=20°C, 10% aqueous solution)	< 11.5	< 11.5	< 11.5
Melting point	~1270°C	~1350°C	~1440°C
Boiling point or boiling range	n.ap. as under normal conditions the boiling point is > 1000°C		
Flash point	n.ap. as not liquid		
Evaporation rate	n.ap. as not liquid		
Flammability (solid, gaseous)	n.ap. as material is a solid and not flammable		
Upper/lower flammability or explosion limit	n.ap. as not gaseous		
Vapour pressure	n.ap. as melting point > 1000°C		
Vapour density	n.ap. as melting point > 1000°C		
Relative density (g/cm^3)	3.2 – 3.3	3.0 - 3.1	3.0 - 3.1
Bulk density (g/cm^3)	approx. 1.15	approx. 1.15	approx. 1
Solubility in water (20°C)	Practically insoluble, < 1.5 g/l		
Partition coefficient: n-Octanol/water	n.ap. as inorganic		
Self-ignition temperature	n.ap. as not pyrophoric		
Decomposition temperature	n.ap. as it contains no inorganic peroxides		
Viscosity	n.ap. as not liquid		
Explosive properties	Not explosive or pyrotechnic. No gas development or self-sustaining exothermic chemical reaction		
Oxidizing properties	n.ap. as calcium aluminate cement does not possess any oxidizing properties		

9.2 Other information

Not available

10. Stability and reactivity

10.1 Reactivity

Calcium aluminate cement is a hydraulic binder. An exothermic reaction takes place in contact with water. The calcium aluminate cement hardens and forms a solid mass which does not react further with its environment.

10.2 Chemical stability

Stable under normal conditions.
Never allow product to come into contact with water during storage.
As aqueous solution: incompatible with acids, ammonium salts.
Calcium aluminate hydrates form with water.

10.3 Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4 Conditions to avoid

Exposure to moisture. Never allow product to come into contact with water during storage.

10.5 Incompatible materials

Strong acids and oxidizing agents, humid air and water.

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

11. Toxicological information

11.1 Information on toxicological effects

11.1.1 Substances:
Acute toxicity:

- Inhalation, LC50 rat, (mg / l / 4h): Not available
- Ingestion, LD50 rat, (mg / kg): Not available
- Skin contact, LD50 rat, (mg / kg): Not available

Irritation (to skin / eye):	Non-irritant. May cause irritation to the eyes, skin and mucous membranes in susceptible persons. Risk of mechanical damage to corneas.
Sensitisation:	Not available
Germ cell mutagenicity:	Not available
Carcinogenicity:	Not available
Reproductive toxicity:	Not available
STOT–single exposure:	Not available
STOT-repeated exposure:	Not available
Aspiration hazard:	None, as cement does not exist in aerosol form
Teratogenicity:	Not available
Narcotic effects:	None.

11.1.2 Mixtures: n.ap.

11.1.3 – 11.1.12:
Not available

11.1.13 Other information
Observations relevant for classification: None.

Other observations (e.g.: toxicity in the event of repeated administration):
Risk of infection of the lung after prolonged inhalation of dust particles.
Classification of the preparation was carried out in accordance with the calculation procedure.

12. Ecological information

12.1 Toxicity

We have no quantitative data concerning the ecological effects of this product.

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances. In contact with water: allow to solidify, remove using mechanical handling equipment.

12.3 Bioaccumulative potential

Not available

12.4 Mobility in soil

Not available

12.5 Results of PBT and vPvB assessment

Not applicable, as calcium aluminate clinker is an inorganic mineral material. The calcium aluminate clinker remaining from the hydration process poses no toxicological risk.

12.6 Other adverse effects

12.6.1 COD value, mg/g:	Not available
12.6.2 BOD5 value, mg/g:	Not available
12.6.3 AOX remarks:	Not applicable
12.6.4 Ecologically significant components:	None.
12.6.5 Other adverse effects:	Not applicable

13. Disposal considerations

13.1 Waste treatment methods

13.1.1 Recommendation: D 10

Waste code no.: Not available.
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

In addition, regional authorities must be complied with.

13.2 Contaminated packaging

13.2.1 Recommendation:
Wash with suitable cleaner. Otherwise as described under Residues.

13.2.2 Safe handling:
As described under Residues.

14 Transport information

ADR	IMDG	IATA
Not a dangerous substance as defined in the above regulations.	Not a dangerous substance as defined in the above regulations.	Not a dangerous substance as defined in the above regulations.

14.1 UN number

14.2 Proper UN shipping name

14.3 Transport hazard class(es)

14.4 Packing group

14.5 Environmental hazards

14.6 Special precautions for user

Packing code: Classification code: Hazard no.: LQ:		Packing instructions (Passenger aircraft): Packing instructions (Cargo aircraft):

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

15. Regulatory information

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

15.1.1 Subject to employment limitations according to MuSchG / JArbSchG: No.
15.1.2 Subject to the storage obligation according to Section 8 (6) of GefStoffV: No.
15.1.3 Subject to the German Major Accidents Act (Störfallverordnung): No.

15.1.4 Technical Instructions on Air Quality Control:	Class	Section 5.2.3	Proportion m%

15.1.5 Water hazard class: WHC 1; Classification according to VwVwS
15.1.6 Storage class: 13

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15.1.7 Subject to the regulatory scope of TRGS 510: No.
15.1.8 Subject to the regulatory scope of TRG 300: No.
15.1.9 Subject to the regulatory scope of WRMG: No.
15.1.10 Subject to other regulations: None.

15.2 Chemical safety assessment:

None, as calcium aluminate cement is exempted from the registration obligation in accordance with Annex V.10 of EC Regulation 1907/2006.

16. Other information

16.1 Indication of changes:

Revision Summary: 2.2, 6.1, 7.1, 8.1, 11.1, 16

16.2 Abbreviations and acronyms:

ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
CAS	Chemical Abstracts Service
CLP	Classification, labelling and packaging (Verordnung (EC) Nr. 1272/2008)
GefStoffV	Hazardous Substances Act
IATA	International Air Transport Association
IMDG	International agreement on the Maritime transport of Dangerous Goods
JArbSchG	Young Persons' Employment Act
MuSchG	Maternity Protection Act
n.ap.	not applicable
PBT	Persistent, bio-accumulative and toxic
REACH	Registration, Evaluation and Authorisation of Chemicals (Verordnung (EC) 1907/2006)
STOT	Specific target organ toxicity (spezifische Zielorgantoxizität)
TRG	Technical rules for compressed gases
TRGS	Technical rules for hazardous substances
vPvB	Very persistent, very bioaccumulative
VwVwS	Administrative Regulation on the Classification of Substances hazardous to waters
WRMG	Detergents and Cleaning Products Act

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