

Product Identifier: MACOR

SDS ID: C-587EU
In Compliance with Regulation (EC)
1907/2006 (REACH) as Amended*****Section 1 - IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY /
UNDERTAKING*******1.1 Product Identifier**

MACOR

Glass Code: 9657**Chemical Name:** Glass ceramic**Substance Registration Number(s)**

This product is considered an article under REACH with no intended release of substances. This article is not subject to REACH.

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against Identified Uses

Used in the manufacture of glass articles.

Uses Advised Against

None known.

1.3 Details of the Supplier of the Safety Data Sheet**Manufacturer Information**

Corning SAS - Specialty Glass

Phone: 33 (0) 164 454 395

Rue Saint Laurent

CS 10243 Bagneaux sur Loing

F - 77797 Nemours Cedex, France

1.4 Emergency Telephone Number

24 Hour CHEMTREC:

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

For emergency calls only. Non-emergency calls cannot be serviced at this number.

*****Section 2 - HAZARDS IDENTIFICATION*******2.1 Classification of the Substance or Mixture****Classification according to Regulation (EC) No. 1272/2008**

No classification is assigned based on classification criteria.

Review the entire data sheet for any additional information which did not result in a classification.

2.2 Label Elements

Labelling according to Regulation (EC) No 1272/2008:

Symbol(s)

None

Signal Word

None

Hazard Statement(s)

None needed according to classification criteria.

Precautionary Statement(s)**Prevention****P261** Avoid breathing dust/fume/gas/mist/vapours/spray. **P264** Wash thoroughly after handling.**Response****P314** Get medical advice/attention if you feel unwell.

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None needed according to classification criteria.

Disposal**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.**2.3 Other Hazards**

No additional information is available.

*****Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS*******3.2 Mixture**

CAS # EC No Registration No	Component Synonyms	1272/2008 (CLP)	Percent
66402-68-4 266-340-9 --	Ceramic materials and wares, chemicals	--	100
Not Available 215-691-6 --	Aluminium Oxides (**See NOTE Below)	--	<20
Not Available -- --	Fluorides (**See NOTE Below)	--	<7

Component Related Regulatory Information

This product may be regulated and have exposure limits as identified in Section 8.

This glass article is a solid material produced by combining various raw materials (e.g. oxides, etc.), melting these components together, and cooling to a non-crystalline solid having its own unique properties.

Processing of this article may produce dusts or fumes which are considered hazardous.

****NOTE:** This component is not a separate component and does not exist in the form of a free oxide, but is included in the glass product. The fluoride component is bound with calcium, potassium, magnesium or aluminum.*****Section 4 - FIRST AID MEASURES*******4.1 Description of First Aid Measures****Inhalation**

If dust is causing irritation, move person to non-contaminated air. Call a physician if symptoms persist.

Skin

Cuts or abrasions should be treated promptly with thorough cleansing of the affected area.

Eyes

Eye injuries from glass particles should be treated by a physician immediately.

Ingestion

The material is a glass article, and ingestion is unlikely.

4.2 Most Important Symptoms and Effects, both Acute and Delayed**Acute**

No information on significant adverse effects.

Delayed

No information on significant adverse effects.

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Treat symptomatically and supportively.

*****Section 5 - FIRE FIGHTING MEASURES*******5.1 Extinguishing Media**

Use methods for the surrounding fire.

Unsuitable Extinguishing Media

None known.

5.2 Special Hazards Arising from the Substance or Mixture

Material is not a fire hazard. Material may give off metallic oxides if exposed to high temperatures.

Hazardous Combustion Products

Material may form irritating and toxic gaseous oxides at high temperatures.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out.

5.3 Advice for Firefighters**Protective Equipment and Precautions for Firefighters**

Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

*****Section 6 - ACCIDENTAL RELEASE MEASURES*******6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Avoid breathing dust. Wear personal protective clothing and equipment, see Section 8.

6.2 Environmental Precautions

Do not flush into sanitary sewer systems, drains or surface water.

6.3 Methods and Material for Containment and Cleaning up

Avoid creating dusts. If glass is crushed and airborne dust can be generated then use a dust suppressant or HEPA vacuum. Place in a closed container. Regulations vary. Consult local authorities before disposal. Glass products may be recycled.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

*****Section 7 - HANDLING AND STORAGE*******7.1 Precautions for Safe Handling**

Obtain special instructions for handling glass before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not breathe dust. Avoid contact of dust with skin and eyes. Wash hands after handling. Minimise dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Keep container closed when not in use. Store in a dry area. Store locked up.

7.3 Specific End Use(s)

Used in the manufacture of glass.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Substance Exposure Limits

Ceramic materials and wares, chemicals (66402-68-4)

- ACGIH:** 10 mg/m³ TWA (inhalable particles, recommended); 3 mg/m³ TWA (respirable particles, recommended, related to Nuisance particulates)
- Belgium:** 3 mg/m³ TWA (alveolar fraction); 10 mg/m³ TWA (inhalable fraction, related to Nuisance particulates)
- France:** 10 mg/m³ TWA [VME] (restrictive limit); 5 mg/m³ TWA [VME] (restrictive limit, related to Nuisance particulates)
- Ireland:** 30 mg/m³ STEL (calculated, total inhalable); 12 mg/m³ STEL (calculated, respirable, related to Nuisance particulates)
10 mg/m³ TWA (total inhalable); 4 mg/m³ TWA (respirable, related to Nuisance particulates)
- Portugal:** 10 mg/m³ TWA [VLE-MP] (inhalable fraction, particulate matter containing no Asbestos and <1% Crystalline silica); 3 mg/m³ TWA [VLE-MP] (respirable fraction, particulate matter containing no Asbestos and <1% Crystalline silica, related to Nuisance particulates)
- Spain:** 10 mg/m³ TWA [VLA-ED] (recommended limit, this value is for the particulate matter that is free from Asbestos and contains <1% of Crystalline silica, no toxicological data to support TWA. Do not exceed generic limit value provided, inhalable fraction); 3 mg/m³ TWA [VLA-ED] (recommended limit, this value is for the particulate matter that is free from Asbestos and contains <1% of Crystalline silica, no toxicological data to support TWA. Do not exceed generic limit value provided. See Standard UNE EN 481: Workplace atmospheres. Definition of the fractions by particle size for aerosol measurement, respirable fraction, related to Nuisance particulates)

Aluminum compounds (may apply to either metal, oxide, or insoluble compounds).

Note that the aluminum in this product is part of the glass product matrix.

- ACGIH:** 1 mg/m³ TWA (respirable fraction, related to Aluminium)
- Austria:** 10 mg/m³ STEL [KZW] (alveolar dust, respirable fraction, smoke, 2 X 60 min)
5 mg/m³ TWA [TMW] (alveolar dust, respirable fraction, smoke)
- Belgium:** 1 mg/m³ TWA (as Al)
- Denmark:** 5 mg/m³ TWA (as Al, total); 2 mg/m³ TWA (as Al, respirable)
- France:** 10 mg/m³ TWA [VME]
- Germany:** 4 mg/m³ TWA MAK (dust, inhalable fraction); 1.5 mg/m³ TWA MAK (dust, respirable fraction)
- Greece:** 10 mg/m³ TWA (inhalable fraction); 5 mg/m³ TWA (respirable fraction)
- Ireland:** 3 mg/m³ STEL (calculated, respirable dust, related to Aluminium)
1 mg/m³ TWA (respirable dust, related to Aluminium)
- Portugal:** 10 mg/m³ TWA [VLE-MP] (particulate matter containing no Asbestos and <1% Crystalline silica)
- Spain:** 10 mg/m³ TWA [VLA-ED]
- Sweden:** 5 mg/m³ LLV (as Al, total dust); 2 mg/m³ LLV (as Al, respirable dust)

Fluorides

- ACGIH:** 2.5 mg/m³ TWA (as F, related to Fluorides and Hydrogen fluoride)
- Denmark:** 2.5 mg/m³ TWA (as F, except those mentioned elsewhere in the list, related to Fluorides and

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- Hydrogen fluoride)
- Germany:** 1 mg/m³ TWA AGW (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed, as F, inhalable fraction, exposure factor 4, related to Fluorides and Hydrogen fluoride)
1 mg/m³ TWA MAK (inhalable fraction, as F, related to Fluorides and Hydrogen fluoride)
- Greece:** 2.5 mg/m³ TWA (as F, related to Fluorides and Hydrogen fluoride)
- Ireland:** 7.5 mg/m³ STEL (calculated, related to Fluorides and Hydrogen fluoride)
2.5 mg/m³ TWA (related to Fluorides and Hydrogen fluoride)
- Portugal:** 2.5 mg/m³ TWA [VLE-MP] (as F, related to Fluorides and Hydrogen fluoride)
- Sweden:** 2 mg/m³ LLV (as F, related to Fluorides and Hydrogen fluoride)

Component Biological Limit Values

There are no biological limit values for any of this product's components.

Derived No Effect Levels (DNELs)

No DNELs available.

Predicted No Effect Concentrations (PNECs)

No PNECs available.

8.2 Exposure Controls**Engineering Controls**

If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Eye/Face Protection

Wear safety glasses with side shields.

Skin Protection

Wear cut resistant gloves when handling glass and appropriate clothing to keep dust from skin.

Glove Recommendations

Wear cut resistant gloves when handling and appropriate clothing to keep dust from skin

Respiratory Protection

Not normally needed. Wear European Standard EN149 approved respiratory equipment whenever exposure to dusts or fumes exceed the exposure limit(s) of any chemical substance listed in this SDS. Use respirator in accordance with manufacturer's use limitations and the EN149 Standard.

Personal Protective Equipment: General

Use good hygiene practices when handling this material including changing and laundering work clothing after use.

Environmental Exposure Controls

None identified.

*** * *Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *****9.1 Information on Basic Physical and Chemical Properties**

Appearance:	White solid	Odour:	None
Physical State:	Glass	PH:	Not applicable
Vapour Pressure:	Not applicable	Vapour Density:	Not applicable
Boiling Point:	Not applicable	Melting Point:	Not applicable
Solubility (H₂O):	Not applicable	Freezing Point:	Not applicable
Softening Point:	Not available	Molecular Weight:	Not applicable
Density:	2.52 g/cm ³	Flash Point:	Not applicable

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Lower Flammability Limit: Not applicableAuto Ignition: Not applicable
Upper Flammability Limit: Not applicable*****Section 10 - STABILITY AND REACTIVITY*******10.1 Reactivity**

No reactivity hazard is expected.

10.2 Chemical Stability

Stable.

10.3 Possibility of Hazardous Reactions

Will not occur.

10.4 Conditions to Avoid

None known.

10.5 Incompatible Materials

None known.

10.6 Hazardous Decomposition Products

At very high temperatures irritating and toxic gaseous metallic oxides can be formed.

*****Section 11 - TOXICOLOGICAL INFORMATION*******11.1 Information on Toxicological Effects****Acute Toxicity**

Overexposure to dusts of this product may produce eye irritation including redness, scratching of the cornea, and tearing. Mechanical irritation from inhalation of product dust may cause coughing, soreness of throat and nose, and sneezing. Very high exposures may cause difficulty in breathing, congestion, tightness of chest and hemorrhage. Fluoride ingestion may cause acute systemic poisoning. Fluoride has been reported to effect gastric, intestinal, circulatory, respiratory and nervous systems, as well as skin rashes and complaints related to bones, joints and muscles.

Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Repeated Dose Effects

Repeated inhalation of dust of this product in very large amounts may cause damage to the lung.

Irritation/Corrosivity

respiratory tract irritation skin irritation eye irritation

Respiratory Sensitisation

No information available for the product.

Skin Sensitisation

No information available for the product.

Germ Cell Mutagenicity

No information available for the product.

Carcinogenicity

None identified.

Substance Carcinogenicity**Aluminium Oxides (Not Available)****Germany:** Category 2 (considered to be carcinogenic for man, fibre dust)**Reproductive Toxicity**

No information available for the product.

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No target organs identified.

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration Hazard

No data available.

*****Section 12 - ECOLOGICAL INFORMATION*******12.1 Toxicity**

No information available.

Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data are available for this product's components.

12.2 Persistence and Degradability

No information available for the product.

12.3 Bioaccumulative Potential

No information available for the product.

12.4 Mobility in Soil

No information available for the product.

12.5 Results of PBT and vPvB Assessment

No information available for the product.

Environmental Fate

No information available.

12.6 Other Adverse Effects

No information available.

*****Section 13 - DISPOSAL CONSIDERATIONS*******13.1 Waste Treatment Methods**

Avoid disposal, attempt to utilize article completely. Prior to disposal of unused article, consult an approved waste disposal operative to ensure regulatory compliance. Refer to the European list (Decision N° 2000/532/CE as modified) to identify applicable waste number(s).

*****Section 14 - TRANSPORT INFORMATION*******International Transportation Regulations**

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, ICAO, IMDG).

International Bulk Chemical Code

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

*****Section 15 - REGULATORY INFORMATION*******15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture****EU - REACH (1907/2006) - Annex XIV List of Substances Subject to Authorisation**

No components of this material are listed in Annex XIV to REACH on Substances Subject to Authorisation.

EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances Subject to Authorisation

No components of this material are listed on the Candidate List of Substances Subject to Authorisation.

EU - REACH (1907/2006) - Annex XVII Restriction on Certain Substances

No components of this material are listed on Annex XVII.

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No components of this material are listed.

Denmark Regulations**Environmental Protection Agency List of Undesirable Substances**

No components of this material are listed.

France Regulations**Water Pollution - National Action Program under Decree 2007-1467**

No components of this material are listed.

Germany Regulations**Germany Water Classification****Ceramic materials and wares, chemicals (66402-68-4)**

ID Number 2136, hazard class 1 - low hazard to waters (Bi: 2.0/Ca: 1.0/Cu: 2.0/O: x/Sr: 2.0)

Aluminium Oxides (Not Available)

1346, not considered hazardous to water

Greece Regulations**Substances Prohibited from Use in the Workplace**

No components of this material are listed.

Italy Regulations**Prohibited Substances - Annex XL of Legislative Decree 81**

No components of this material are listed.

Portugal Regulations**Prohibited Substances - Portuguese Decree 275/91 Regulation No. 479/85**

No components of this material are listed.

United Kingdom Regulations**List of Dangerous Substances in Water - Regulations 2010 SI No. 675**

No components of this material are listed.

Inventory Information**Component Analysis - Inventory**

Component	CAS #	EEC
Ceramic materials and wares, chemicals	66402-68-4	EIN
Aluminium Oxides	Not Available	EIN

15.2 Chemical Safety Assessment

This article is not classified as dangerous. No information available for the product.

*****Section 16 - OTHER INFORMATION*******16.1 Other Information**

Reasonable care has been taken in the preparation of this information, but Corning makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. Corning makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use.

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Key/Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; CAS - Chemical Abstracts Service; CLP - Classification, Labelling and Packaging; DFG - Deutsche Forschungsgemeinschaft; EC50 - Effective Concentration, 50%; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EU - European Union; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; LD50 - Lethal Dose, 50%; LEL - Lower Explosive Limit; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - European Rail Transport; TLV - Threshold Limit Value; TWA - Time Weighted Average; UEL - Upper Explosive Limit

R Phrases in Section 3

None.

SDS Revision Information

Revision 1.0000, 27-AUG-2015: New SDS.

End of Sheet C-587EU