



Date SDS established: 09.08.2018
Revision number: 1.0

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Product name: MagSi-S Epoxy 600
MagSi-S Epoxy 1.0
MagSi-S Epoxy 3.0

Catalogue number: MD16010; MD18010; MD19010; MD02010
MD01010; MD03010; MD04010; MD05010
MD41010; MD43010; MD44010; MD04510

1.2 Relevant identified uses of the substances or mixture:

In vitro diagnostic use & research use

uses advised against: In vivo use

1.3 Details of the supplier of the safety data sheet:

Office:

Vlotstraat 2-4
6417 CB Heerlen (The Netherlands)
Tel: +31-(0)46-820 0206
Fax: +31-(0)46-410 6825
E-mail: info@magtivio.com

Lab & Production:

De Asselen Kuil 12a
6161 RD Geleen (The Netherlands)

1.4 Emergency telephone number

Call your local emergency center.

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP):

Flam. Liq. 2; H225

Eye Irrit. 2; H319

STOT SE 3; H335

Carc. 2; H351

P statements:

P210, P233, P240, P241, P242, P243

P280, P305 + P351 + P338, P337 + P313

P312

P201; P308 + P313

2.2 Label elements



Danger

H351

P201, P308 + P313

2.3 Other hazards

EUH019.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous ingredient	Identification	Classification	Concentration
Tetrahydrofuran	Index: 603-025-00-0 EC nr. 203-726-8 CAS nr. 109-99-9 REACH nr. 01-2119444314-46-xxxx	Flam. Liq. CAT. 2; H225 Eye Irrit. CAT. 2; H319 STOT SE CAT. 3; H335 Carc. CAT. 2; H351	50%

4 FIRST AID MEASURES

4.1 Description of first aid measures

After inhalation: fresh air. Consult a physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, cough, shortness of breath, narcosis, drowsiness.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5 FIRE FIGHTING MEASURES

5.1 Fire extinguishing media

Suitable extinguishing media

Water, carbon dioxide (CO₂), foam, dry powder.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at ambient temperatures.

Pay attention to flashback.

Development of hazardous combustion gases or vapors possible in the event of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Keep away from heat and sources of ignition. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not empty into drains. Risk of explosion.

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Indications about waste treatment: see section 13.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling: Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols. Observe label precautions.

Advice on protection against fire and explosion: Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygienic measures: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protect from light.

Recommended storage temperature: see product label.

7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

8 EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters:

Basis	Value	Threshold limits	Remarks
ECLV	Time Weighted Average (TWA):	50 ppm	Can be absorbed through the skin
	Short Term Exposure Limit (STEL):	150 mg/m ³	
		100 ppm	
	Skin designation:	300 mg/m ³	

Basis	Value	Threshold limits	Remarks
EH40 WEL	Short Term Exposure	250 ppm	Can be absorbed through the skin
	Limit (STEL):	333 mg/m ³	
	Time Weighted Average (TWA):	200 ppm	
	Skin designation:	266 mg/m ³	

Derived No Effect level (DNEL)

Worker DNEL, longterm	Systemic effects	dermal	25 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	inhalation	150 mg/m ³
Worker DNEL, longterm	Local effects	inhalation	150 mg/m ³
Consumer DNEL, acute	Systemic effects	inhalation	150 mg/m ³
Consumer DNEL, acute	Local effects	inhalation	150 mg/m ³
Consumer DNEL, longterm	Systemic effects	dermal	15 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	inhalation	62 mg/m ³

Recommended monitoring procedures: methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

Predicted No Effect Concentration (PNEC):

PNEC Fresh water	4.32 mg/l
PNEC Fresh water sediment	23.3 mg/kg
PNEC Marine water	0.432 mg/l
PNEC Marine sediment	2.33 mg/kg
PNEC Soil	2.13 mg/kg
PNEC Sewage treatment plant	4.6 mg/kg
PNEC Aquatic intermittent release	21.6 mg/l

8.2 Exposure controls

Engineering measures: technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures: protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection: safety glasses

Hand protection:

splash contact: Glove material: butyl-rubber
 Glove thickness: 0.7 mm
 Break through time: >10 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment: flame retardant anti-static protective clothing.

Respiratory protection: required when vapors/aerosols are generated.
Recommended Filter type: Filter A (according to DIN 3181) for vapors of organic compounds. The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls: do not empty into drains. Risk of explosion.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Beads of 600 nm, 1 µm and 3 µm in liquid.

9.2 Other Information

No data available.

10 STABILITY AND REACTIVITY

10.1 Reactivity

Vapors may form explosive mixture with air. Formation of peroxides possible.

10.2 Chemical stability

Sensitivity to light; sensitive to air. Stabilizer: butyl hydroxytoluene (BHT).

10.3 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances: alkali hydroxides, hydrides, oxidizing agents, bromine, oxygen.

10.4 Conditions to avoid

Warning.

10.5 Incompatible Materials

Rubber, various plastics, tin.

10.6 Hazardous decomposition products

Peroxides.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity: LD50 rat: 1,650 mg/kg (RTECS) (Regulation (EC) No 1272/2008, Annex VI)
Symptoms: Irritation of mucous membranes

Acute inhalation toxicity: LC50 rat: 53.9 mg/l; 4 h (IUCLID)
Symptoms: mucosal irritations, cough, shortness of breath
Possible damages: damage of respiratory tract

Acute dermal toxicity: absorption

Skin irritation: rabbit; result: irritations (IUCLID) (Regulation (EC) No 1272/2008, Annex VI)
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: rabbit; result: eye irritation (IUCLID)
Causes serious eye irritation.

Sensitisation

Sensitisation test: guinea pig; result: negative (IUCLID)
Human experience: result: negative (IUCLID)

Germ cell mutagenicity
Genotoxicity in vitro
Ames test; result: negative (IUCLID)

Carcinogenicity: this information is not available.

Reproductive toxicity: no impairment of reproductive performance suspected. (lit.)

Teratogenicity: this information is not available.

CMR effects

Carcinogenicity: Suspected of causing cancer.

Specific target organ toxicity - single exposure
Target Organs: Respiratory system
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

In high doses: drowsiness, narcosis.

Handle in accordance with good industrial hygiene and safety practice.

12 ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish:

LC50 *Pimephales promelas* (fathead minnow): 2,160 mg/l; 96 h (in soft water) (IUCLID)

Toxicity to daphnia and other aquatic invertebrates:

EC50 *Daphnia magna* (Water flea): 382 mg/l; 24 h (IUCLID)

Toxicity to algae:

IC5 *Scenedesmus quadricauda* (Green algae): 3,700 mg/l; 8 d (maximum permissible toxic concentration) (IUCLID)

Toxicity to bacteria:

EC5 *Pseudomonas putida*: 580 mg/l; 16 h (maximum permissible toxic concentration) (IUCLID)

12.2 Persistence and degradability

Biodegradability: 39 %; 28 d; OECD Test Guideline 301D. Not readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: log Pow: 0.45 (25 °C); OECD Test Guideline 107

Bioaccumulation is not expected.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects

Additional ecological information: discharge into the environment must be avoided.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14 TRANSPORT INFORMATION

THF	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	UN 2056		
14.2 Proper shipping name	Tetrahydrofuran		
14.3 Class	3		
14.4 Packing group	II		
14.5 Environmentally hazardous	-		
14.6 Special precautions for user	yes	no	yes
	Tunnel restriction: D/E		EmS: F-E, S-D

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

15 REGULATORY INFORMATION

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

No data available.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16 OTHER INFORMATION

Risk phrases, Safety phrases, Hazard statements and Precautionary statements referred elsewhere in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3.

H225: Highly flammable liquid and vapor.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer.

Full text of P-Statements referred to under sections 2 and 3

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground/bond container and receiving equipment.

P241: Use explosion-proof electrical/ventilating/lighting/.../ equipment.

P242: Use only non-sparking tools.

P243: Take precautionary measures against static discharge.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P308+P313: IF exposed or concerned: Get medical advice/attention.

Full text of EUH-phrases referred to under sections 2 and 3

EUH019: May form explosive peroxides

Procedure used to derive the classification for mixtures according to Regulation (EC)

1272/2008: Calculation method.

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

Changes to previous version of the SDS : not applicable (first version).

EXPOSURE SCENARIO (Professional use)

1. Professional use (Solvent, Chemical for synthesis)

Sectors of end-use

SU 22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category

PC21 Laboratory chemicals

Process categories

PROC15 Use as laboratory reagent

Environmental Release Categories

ERC2 Formulation of preparations

ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)

ERC6b Industrial use of reactive processing aids

2. Contributing scenarios: Operational conditions and risk management measures

2.1 Contributing scenario controlling worker exposure for: PROC15

Product characteristics

Concentration of the Substance in mixture/article: covers the percentage of the substance in the product up to 100%.

Physical form (at time of use): high volatile liquid.

Frequency and duration of use

Frequency of use 5 days/week

Frequency of use <8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor: Indoor without local exhaust ventilation (LEV).

Technical conditions and measures

Provide extraction ventilation at points where emissions occur. (Effectiveness (of a measure): 80 %)

Organizational measures to prevent /limit releases, dispersion and exposure: covers daily exposures up to 8 hours.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Wear suitable gloves tested to EN374. Avoid splashing.

3. Exposure estimation and reference to its source

Environment

A chemical safety assessment was performed according REACH Article 14(3), Annex I, sections 3 (Environmental Hazard Assessment) and 4 (PBT/vPvB Assessment). As no hazard was identified, an exposure assessment and risk characterization is not necessary (REACH Annex I section 5.0).

Workers				
CS	Use description	Exposure duration, route, effect	RCR	Exposure assessment method
2.1	PROC8b	longterm, inhalative, local	0.1	ECETOC TRA
		longterm, inhalative, systemic	0.1	ECETOC TRA
		longterm, dermal, systemic	0.03	ECETOC TRA

4. Guidance to downstream user to evaluate whether he works inside the boundaries set by the exposure scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).