(3-Glycidoxypropyl)trimethoxysilane

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name:	(3-Glycidoxypropyl)trimethoxysilane
CAS Number:	2530-83-8
EC Number:	219-784-2

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

Product use:	Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company name:	East Harbour Group Ltd 20 Clough Road, Severalls Industrial Park Colchester, Essex, CO4 9QS United Kingdom
Telephone:	+44 (0) 333 242 0100
Email:	info@eastharbourgroup.com

1.4 Emergency telephone number

Emergency telephone:	0800 246 1274

Section 2: Hazardous identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Serious eye damage, (Category 1)	H318: Causes serious eye damage.
Long-term (chronic) aquatic hazard, (Category 3)	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

Pictogram

Signal word Danger

Hazard Statements

(3-Glycidoxypropyl)trimethoxysilane

EAST HARBOUR GROUP

H318	Causes serious eye damage.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements

P273	Avoid release to the environment.
P280	Wear 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.
P501	Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements
None

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 3: Composition/information on ingredients

3.1 Substances

Formula	$C_9H_{20}O_5Si$
Molecular weight	236.34 g/mol
CAS-No.	2530-83-8
EC-No.	219-784-2

Component	Classification	Concentration
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane		
CAS-No. 2530-83-8 EC-No. 219-784-2	Eye Dam. 1; Aquatic Chronic 3; H318, H412	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: First aid measures

4.1 Description of first aid measures
General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air.

(3-Glycidoxypropyl)trimethoxysilane

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

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call-in ophthalmologist.
Remove contact lenses.

If swallowed
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
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

Section 5: Fire-fighting measures

5.1 Fire Fighting Media and Instructions:
Suitable extinguishing media
Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media
Water

5.2 Special hazards arising from the substance or mixture
Nature of decomposition products not known.
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
In the event of fire, wear self-contained breathing apparatus.

5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 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. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains.

(3-Glycidoxypropyl)trimethoxysilane

EAST HARBOUR GROUP

6.3 Methods and materials 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 (e.g. Chemizorb®).
Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed.

Storage class
Storage class (TRGS 510): 10: Combustible liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure controls/personal protection

8.1 Control parameters
Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

Application Area	Routes of exposure	Health effect	Value
Worker DNEL, acute	dermal	Systemic effects	
Worker DNEL, acute	inhalation	Systemic effects	147 mg/m3
Worker DNEL, long-term	dermal	Systemic effects	
Worker DNEL, long-term	inhalation	Systemic effects	147 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	1 mg/l
Sea water	0.1 mg/l
Aquatic intermittent release	1 mg/l
Sediment	0.79 mg/kg
Soil	0.13 mg/kg

8.2 Exposure controls
Personal protective equipment
Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

(3-Glycidoxypropyl)trimethoxysilane

Skin protection
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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: 30 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection
protective clothing

Respiratory protection
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
Recommended Filter type: Filter type ABEK

The entrepeneur 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.

Control of environmental exposure
Do not let product enter drains.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odor	weakly aromatic
Melting point/freezing point	Melting point/freezing point: < -70 °C
Initial boiling point and boiling range	120 °C at 3 hPa - lit.
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Lower explosion limit: 0.43 %(V) - DIN 51649
Flash point	113 °C - closed cup
Autoignition temperature	236 °C at 977 - 984 hPa

(3-Glycidoxypropyl)trimethoxysilane

Decomposition temperature	No data available
pH	No data available
Viscosity	Viscosity, kinematic: 3.43 mm2/s at 20 °C Viscosity, dynamic: 3.65 mPa.s at 20 °C
Water solubility	at 20 °C immiscible, (External MSDS)
Partition coefficient n-octanol/water	No data available
Vapor pressure	< 0.1 hPa at 20 °C
Density	1.07 g/cm3 at 25 °C - lit.
Relative density	1.071 at 20 °C - OECD Test Guideline 109
Relative vapor density	No data available
Particle characteristics	No data available
Explosive properties	No data available
Oxidizing properties	none

9.2 Other safety information
No data available

Section 10: Stability and Reactivity

10.1 Reactivity
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Oxidizing agents
Peroxides
Water
Hydrolysis

10.4 Conditions to avoid
Strong heating.

10.5 Incompatible materials
No data available

10.6 Hazardous decomposition products
Hazardous decomposition products - Carbon oxides, silicon oxides, Methanol is given off during processing and by reaction with water.
In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Toxicological effects:
Acute toxicity
LD50 Oral - Rat - male and female - 8,025 mg/kg
(OECD Test Guideline 401)

(3-Glycidoxypropyl)trimethoxysilane

LC50 Inhalation - Rat - male and female - 4 h - > 5.3 mg/l – Aerosol
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male - 4,248 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Irreversible effects on the eye - 4 h
(OECD Test Guideline 405)

Respiratory or skin sensitization
Buehler Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive
Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: Positive results were obtained in some in vitro tests.

Test Type: In vivo mammalian alkaline comet assay
Species: Rat
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 489
Result: positive

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

(3-Glycidoxypropyl)trimethoxysilane

EAST HARBOUR GROUP

11.2 Additional Information
Endocrine disrupting properties
Product
Assessment
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 90 d - NOAEL (No observed adverse effect level) - >= 1,000 mg/kg

RTECS: VV4025000
Material may form a siloxane polymer on the skin, eyes, or in the lungs. In the event of direct contact of the liquid with these tissues, seek medical attention., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1 Toxicity
Toxicity to fish
semi-static test LC50 - Cyprinus carpio (Carp) - 55 mg/l - 96 h (Regulation (EC) No. 440/2008, Annex, C.1)

Toxicity to daphnia and other aquatic invertebrates
static test LC50 - Simocephalus vetulus - 324 mg/l - 48 h (US-EPA)

Toxicity to algae
static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 350 mg/l - 96 h (OECD Test Guideline 201)

Toxicity to bacteria
static test EC50 - activated sludge - > 100 mg/l - 3 h (OECD Test Guideline 209)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
semi-static test NOEC - Daphnia magna (Water flea) - >= 100 mg/l - 21 d (OECD Test Guideline 211)

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 37 % - Not readily biodegradable. (Regulation (EC) No. 440/2008, Annex, C.4-A)
Biochemical Oxygen Demand (BOD)	370 mg/g

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

(3-Glycidoxypropyl)trimethoxysilane

EAST HARBOUR GROUP

12.6 Endocrine disrupting properties
Product
Assessment
The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects
No data available

Section 13: Disposal considerations

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

Section 14: Transport Information

14.1 UN number

ADR/RID:	-
IMDG:	-
IATA:	-

14.2 UN proper shipping name

ADR/RID:	Not dangerous goods
IMDG:	Not dangerous goods
IATA:	Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID:	-
IMDG:	-
IATA:	-

14.4 Packaging group

ADR/RID:	-
IMDG:	-
IATA:	-

14.5 Environmental hazards

ADR/RID:	no
IMDG Marine pollutant:	no
IATA:	no

14.6 Special precautions for user
No data available

Further information
Not classified as dangerous in the meaning of transport regulations.

(3-Glycidoxypropyl)trimethoxysilane

EAST HARBOUR GROUP

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other Information

Full text of H-Statements
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways;
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road;
AIIC	Australian Inventory of Industrial Chemicals;
ASTM	American Society for the Testing of Materials;
bw	Body weight;
CMR	Carcinogen, Mutagen or Reproductive Toxicant;
DIN	Standard of the German Institute for Standardisation;
DSL	Domestic Substances List (Canada);
ECx	Concentration associated with x% response;
ELx	Loading rate associated with x% response;
EmS	Emergency Schedule;
ENCS	Existing and New Chemical Substances (Japan);
ErCx	Concentration associated with x% growth rate response;
GHS	Globally Harmonized System;
GLP	Good Laboratory Practice;
IARC	International Agency for Research on Cancer;
IATA	International Air Transport Association;
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk;
IC50	Half maximal inhibitory concentration;
ICAO	International Civil Aviation Organization;
IECSC	Inventory of Existing Chemical Substances in China;
IMDG	International Maritime Dangerous Goods;
IMO	International Maritime Organization;
ISHL	Industrial Safety and Health Law (Japan);
ISO	International Organisation for Standardization;
KECI	Korea Existing Chemicals Inventory;
LC50	Lethal Concentration to 50 % of a test population;
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose);
MARPOL	International Convention for the Prevention of Pollution from Ships;

(3-Glycidoxypropyl)trimethoxysilane

n.o.s.	Not Otherwise Specified;
NO(A)EC	No Observed (Adverse) Effect Concentration;
NO(A)EL	No Observed (Adverse) Effect Level;
NOELR	No Observable Effect Loading Rate;
NZIoC	New Zealand Inventory of Chemicals;
OECD	Organization for Economic Co-operation and Development;
OPPTS	Office of Chemical Safety and Pollution Prevention;
PBT	Persistent, Bioaccumulative and Toxic substance;
PICCS	Philippines Inventory of Chemicals and Chemical Substances;
(Q)SAR	(Quantitative) Structure Activity Relationship;
REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail;
SADT	Self-Accelerating Decomposition Temperature;
SDS	Safety Data Sheet;
TCSI	Taiwan Chemical Substance Inventory;
TECI	Thailand Existing Chemicals Inventory;
TSCA	Toxic Substances Control Act (United States);
UN	United Nations;
UNRTDG	United Nations Recommendations on the Transport of Dangerous Goods;
vPvB	Very Persistent and Very Bioaccumulative