Safety Data Sheet

According to Regulation (EC) No 1907/2006, Annex II,

Amended by COMMISSION REGULATION (EU) 2020/878,

Amended by COMMISSION DELEGATED REGULATION (EU) 2023/707,

According to REGULATION (EC) No 1272/2008

Allyl 2,3-epoxypropyl ether

Version 1.0

Issue date: 22-11-2024

Revision date: 22-11-2024 **CIRS SDS Record Number: CSSS-TCO-010-158925**

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

1.1 Product identifier:

Identification on the label/Trade name:	Allyl 2,3-epoxypropyl ether
Additional identification:	Nanoform is NOT covered by this SDS.
Code:	XY680
Identification of the product:	CAS# 106-92-3 EC# 203-442-4
Index Number:	603-038-00-1
REACH registration No.:	01-2119486787-15-0004

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

1.2.1 Identified uses:

As an active diluent, reaction intermediate, etc.

SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)

SU 9: Manufacture of fine chemicals

SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)

PC 19: Intermediate

PC 32: Polymer preparations and compounds

1.2.2 Uses advised against:

No uses advised against are identified.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative):	Chemical Inspection & Regulation Service Limited
Supplier(Manufacturer):	Anhui Xinyuan Technology Co., Ltd
Address:	No. 16, Zijin Road, Circular Economy Park, Huizhou District, Huangshan City, Anhui Province
Contact person(E-mail):	sale.xy6@0559hy.com
Telephone:	+86-559-3518000
Fax:	+86-559-3516788

1.4 Emergency telephone Number:

+86-559-3518000 Only available during office hours (9:00a.m.-17:30p.m.)

Available outside office hours?	YES		NO	X

Section 2 Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification of the substance:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Flam. Liq. 3	H226

Acute Tox. 4	H302
Skin Irrit. 2	H315
Skin Sens. 1	H317
Eye Dam. 1	H318
Acute Tox. 3	H331
STOT SE 3	H335
Muta. 2	H341
Carc. 2	H351
Repr. 2	H361
Aquatic Chronic 3	H412

For full text of H- phrases: see section 2.2.

2.2 Label elements:

Hazard pictogram(s):

Signal word: Danger

Hazard statement(s):

H226: Flammable liquid and vapour.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H331: Toxic if inhaled.
H335: May cause respiratory irritation(inhalation).
H341: Suspected of causing genetic defects.
H351: Suspected of causing cancer.
H361: Suspected of damaging fertility or the unborn child.
H412: Harmful to aquatic life with long lasting effects.

Precautionary statement(s):

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof [electrical/ventilating/lighting] equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352: IF ON SKIN: Wash with plenty of water.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313: IF exposed or concerned: Get medical advice/attention.
P310: Immediately call a POISON CENTER/doctor.
P330: Rinse mouth.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364: Take off contaminated clothing and wash it before reuse.
P370 + P378: In case of fire: Use water spray, carbon dioxide, foam, chemical powder, sand, earth to extinguish.
P403 + P233: Store in a well-ventilated place. keep container tightly closed.
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P501: Dispose of contents/container in accordance with local regulations.

Supplemental Hazard information (EU) Not applicable.

2.3 Other hazards:

The substance is not PBT / vPvB.

The substance is not identified as having endocrine disrupting properties.

Section 3 Composition/information on ingredients

Substance/Mixture: Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration	Specific Concentration limits, M-Factors, Acute Toxicity Estimates (ATE)
Allyl 2,3-epoxypropyl ether	01-2119486787-15-0004	106-92-3	203-442-4	99.99%	N/A
Water	N/A	7732-18-5	231-791-2	0.01%	N/A

Section 4 First aid measures

4.1 Description of first aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Remove casualty to fresh air and provide warmth and rest; if necessary, seek medical advice.

4.1.2 In case of skin contact:

Immediately clean areas of skin affected with soap and plenty of water; if necessary seek medical advice.

4.1.3 In case of eyes contact:

Immediately wash out eye thoroughly with plenty of water until irritation subsides; consult an eye specialist/ophthalmologist.

4.1.4 In case of ingestion:

If product is swallowed, do NOT induce vomiting. Drink plenty of water; if necessary seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed:

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Toxic if inhaled. May cause respiratory irritation(inhalation). Suspected of causing genetic defects. Suspected of causing cancer. Suspected of damaging fertility or the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media: Extinguishing media To suit local surroundings (e.g. water spray, carbon dioxide, foam, chemical powder, sand, earth).

Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture In case of fire, the following can be released: Oxides of carbon.

5.3 Advice for firefighters: Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Eliminate all sources of ignition. Wear appropriate protective clothing. Avoid breathing vapours. Keep unnecessary people away; isolate hazard area and deny entry. Consider need for evacuation.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if vapour is generated.

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

6.3 Methods and material for containment and cleaning up: It is absorbed with soil, sand or other inert material and then transferred to a suitable container for recycling or disposal.

6.4 Reference to other sections: See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures: Handle in accordance with good hygiene and safety practice. Keep away from incompatible substances. Only use non-sparking equipment. And be aware of static electricity.

7.1.2 Advice on general occupational hygiene: Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities: Ensure adequate ventilation of the storage area. Keep containers tightly closed, cool and dry. Keep away from incompatible substances. Store closed drums with bung in “up” position. Vapour space above stored liquid may be flammable/explosive unless blanketed with inert gas. Further information Stainless steel packaging is recommended.

7.3 Specific end use(s): Not applicable.

Section 8 Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:

				Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		
Country	Substance	EINECS No.	CAS No.	ppm	mg/m^3	ppm	mg/m^3	Note
Ireland	Allyl 2,3-epoxypropyl ether	203-442-4	106-92-3	5	22	10	44	-

8.1.2 Additional exposure limits under the conditions of use: Not available.

8.1.3 DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.954 mg/m³
Workers - Hazard via inhalation route	Systemic effects-Acute/short term exposure	DNEL=896 mg/m³
Workers - Hazard via inhalation route	Local effects-Acute/short term exposure	DNEL=8.26 mg/m³
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.19 mg/kg bw/day
Workers - Hazard via dermal route	Systemic effects-Acute/short term exposure	DNEL=127.5 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.477 mg/m³
General Population - Hazard via inhalation route	Systemic effects-Acute/short term exposure	DNEL=448 mg/m³
General Population - Hazard via inhalation route	Local effects-Acute/short term exposure	DNEL=4.13 mg/m³
General Population - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.095 mg/kg bw/day
General Population - Hazard via dermal route	Systemic effects-Acute/short term exposure	DNEL=63.75 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=0.095 mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Acute/short term exposure	DNEL=0.285 mg/kg bw/day
Hazard for aquatic organisms	Freshwater	PNEC=0.036 mg/L
Hazard for aquatic organisms	Marine water	PNEC=3.6 µg/L
Hazard for aquatic organisms	STP	PNEC=0.15 mg/L
Hazard for aquatic organisms	Sediment (freshwater)	PNEC=0.042 mg/kg sediment dw
Hazard for aquatic organisms	Sediment (marine water)	PNEC=0.004 mg/kg sediment dw
Hazard for terrestrial organisms	Soil	PNEC=5 µg/kg soil dw

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety goggles.

Skin protection

Hand protection: PVC or neoprene gloves.

Body protection: Wear personal protective equipment appropriate to the task.

Respiratory protection: Approved respirator (e.g. EN 149:2001 FFP3) if ventilation is insufficient.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical state: Liquid

Colour: Colorless to pale yellow

Odour: Slightly irritating odor

Odour threshold: Not available

pH: Not available

Melting point/freezing point (°C): -100 °C

Boiling point or initial boiling point and boiling range (°C): 153.9 °C

Flash point (°C): 57 °C

Evaporation rate: Not available

Flammability limit - lower (%): Not available

Flammability (gas, liquid, solid): Not available

Ignition temperature (°C): Not available

Lower and upper explosion limit: Not available

Vapour pressure (20°C):	4.8 mBar
Relative vapour density:	Not available
Relative Density (g/cm^3):	0.962g/cm^3 (20 °C)
Bulk density (kg/m^3):	Not available
Solubility in water (g/l, 20°C):	140 g/L
Solubility in other polar and non-polar solvents (g/l, 20°C):	Not available
Partition coefficient n-octanol/water (log Po/w, 25°C):	log Pow: 0.45
Auto-ignition temperature:	264 °C
Decomposition temperature:	Not available
Kinematic viscosity (mm²/s):	Dynamic viscosity: 1.2 mPa/s
Particle characteristics:	Not applicable
Explosive properties:	Not available
Oxidising properties:	Not available
Molecular Formula:	C6H10O2
Molecular Weight:	114.14

9.2. Other information:

Fat solubility(solvent-oil to be specified) etc:	Not available
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available

Section 10 Stability and Reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	May form peroxides in air.
10.4 Conditions to avoid:	Incompatible materials. High temperatures. Proximity to sources of ignition.
10.5 Incompatible materials:	Oxidising agents, acids, alkalies, ammonia, amines, sodium, zinc, magnesium and their alloys, halides.
10.6 Hazardous decomposition products:	Oxides of carbon.

Section 11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity:	
LD50(Oral, Rat):	830 mg/kg bw, female
LD50(Dermal, Rabbit):	2550 mg/kg bw, male
LC50(Inhalation, Rat):	Not available
Skin corrosion/irritation:	Causes skin irritation.
Serious eye damage/irritation:	Mauses serious eye damage.
Respiratory or skin sensitization:	May cause an allergic skin reaction.
Germ cell mutagenicity:	Suspected of causing genetic defects.
Carcinogenicity:	Suspected of causing cancer.
Reproductive toxicity:	Suspected of damaging fertility or the unborn child.

STOT- single exposure:	May cause respiratory irritation(inhalation).
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

11.2 Information on other hazards

Endocrine disrupting properties	The substance is not identified as having endocrine disrupting properties.
Other information	Not applicable

Section 12 Ecological information

12.1 Toxicity:

Acute (short-term) toxicity:	
LC50(96h, Fish):	36 mg/L
EC50(48h, Crustacea):	50 mg/L
EC50(72h, Algae/aquatic plants):	> 79 mg/L
Chronic (long-term) toxicity:	
NOEC(Fish):	Not available
NOEC(Crustacea):	Not available
NOEC(Algae/aquatic plants):	20 mg/L
12.2 Persistence and degradability:	Under test conditions no biodegradation observed
12.3 Bioaccumulative potential:	Not available
12.4 Mobility in soil:	log Koc: 0.906
12.5 Results of PBT and vPvB assessment:	The substance is not PBT / vPvB.
12.6 Endocrine disrupting properties:	The substance is not identified as having endocrine disrupting properties.
12.7 Other adverse effects:	Not available.
12.8 Additional information	Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

Section 14 Transport Information

	Land transport (ADR/RID)	Inland waterways (ADN)	Sea transport (IMDG)	Air transport (ICAO/IATA)
14. 1 UN number or ID number	UN2219	UN2219	UN2219	UN2219
14.2 UN proper shipping name	ALLYL GLYCIDYL ETHER	ALLYL GLYCIDYL ETHER	ALLYL GLYCIDYL ETHER	ALLYL GLYCIDYL ETHER

14.3 Transport hazard class(es)	3	3	3	3
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	No	No	No	No
14.6 Special precautions for user	See section 2.2	See section 2.2	See section 2.2	See section 2.2
14.7 Maritime transport in bulk according to IMO instruments	IBC03	IBC03	IBC03	IBC03

Section 15 Regulatory information

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

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations: Not applicable

15.2 Chemical Safety Assessment YES [X] NO [ ]

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2020/878, (EU) 2023/707

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No. 1272/2008		Classification procedure
Flam. Liq. 3	H226	Calculation method
Acute Tox. 4	H302	On basis of test data
Skin Irrit. 2	H315	On basis of test data
Skin Sens. 1	H317	On basis of test data
Eye Dam. 1	H318	On basis of test data
Acute Tox. 3	H331	On basis of test data

STOT SE 3	H335	On basis of test data
Muta. 2	H341	On basis of test data
Carc. 2	H351	On basis of test data
Repr. 2	H361	On basis of test data
Aquatic Chronic 3	H412	On basis of test data

16.5 Relevant H-statements (number and full text):

H226: Flammable liquid and vapour.

H302: Harmful if swallowed.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H331: Toxic if inhaled.

H335: May cause respiratory irritation(inhalation).

H341: Suspected of causing genetic defects.

H351: Suspected of causing cancer.

H361: Suspected of damaging fertility or the unborn child.

H412: Harmful to aquatic life with long lasting effects.

16.6 Training instructions:

Not applicable.

16.7 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.8 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Author: Hangzhou REACH Technology Group Co., Ltd. Website:www.cirs-group.com Tel:0571-87206555 Email:info@cirs-group.com