Safety Data Sheet

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

Amended by COMMISSION REGULATION (EU) 2020/878,

According to REGULATION (EC) No 1272/2008

Triallyl isocyanurate

Version 1.0

Issue date: 02-04-2022

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

1.1 Product identifier:

Identification on the label/Trade name:	Triallyl isocyanurate; FARIDA TAICA; Crosslinking agent
Additional identification:	1,3,5-triallyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione; 1,3,5-Triallylisocyanurate; 1,3,5-Triallylisocyanuric acid; TAIC
Identification of the product:	CAS# 1025-15-6 EC# 213-834-7
Index Number:	Not available
REACH registration No.:	Not available

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

1.2.1 Identified uses:

This substance is used in the following products: polymers.

This substance is used in the following areas: formulation of mixtures and/or re-packaging.

This substance is used for the manufacture of: rubber products, plastic products, electrical, electronic and optical equipment and machinery and vehicles.

1.2.2 Uses advised against:

It can be used as auxiliary crosslinking agent or irradiation auxiliary crosslinking agent for rubber or plastics.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative):	-
Supplier(Manufacturer):	HUNAN MINHE CHEMICAL INDUSTRIAL CO.,LTD.
Address:	HUPING, HEHUA TOWN, LIUYANG CITY, HUNAN 410300, P.R.CHINA
Contact person(E-mail):	Ms. Beihua Zhong zbh@frdtech.com
Telephone:	+86-731-83627089
Fax:	+86-731-83646101

1.4 Emergency telephone Number:

+86-18974849269 Only available during office hours (8:00a.m.-17:00p.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
Acute Tox. 4	H302
Acute Tox. 4	H312
STOT RE 2	H373

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

2.2 Label elements:

Hazard pictogram(s):

Signal word: Warning

Hazard statement(s):
H302: Harmful if swallowed.
H312: Harmful in contact with skin.
H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s):
P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P264Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.
P501: Dispose of contents/container in according with local regulation.

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)
Triallyl isocyanurate	N/A	1025-15-6	213-834-7	98%	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:

Potential for exposure by inhalation if aerosols or mists are generated. Move victims into fresh air. With labored breathing: Provide with oxygen. Consult a doctor if the casualty is not breathing: Perform mouth-to-mouth resuscitation, notify emergency physician immediately.

4.1.2 In case of skin contact:

Wash off affected area immediately with plenty of water. Continue decontamination with polyethylene glycol 400 after initial rinsing with water and then wash with water and soap. If symptoms persist, consult a physician for treatment.

4.1.3 In case of eyes contact:

With eye held open, thoroughly rinse immediately with plenty of water for at least 10 minutes. Consult an ophthalmologist immediately if the symptoms persist.

4.1.4 In case of ingestion:

Rinse out mouth. Immediately give large quantities of water to drink. Consult a physician immediately.

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

Harmful if swallowed. Harmful in contact with skin. May cause damage to organs through prolonged or repeated exposure.

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: Use water, mist, dry powder, foam.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture: In the case of fire, the following hazardous smoke fumes may be produced: Hydro-cyanic acid, Carbon monoxide. Risk determining decomposition products: Allylamine.

5.3 Advice for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand. MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Wear personal protective equipment as described in Section 8.

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

6.2 Environmental Precautions: Prevent substance from entering soil, natural bodies of water and sewer systems. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for Containment and Cleaning up: Absorb with liquid-binding material, e. g.: diatomaceous earth sand universal binder. Dispose of absorbed material in accordance with the regulations.

6.4 Reference to other sections: See Section 7 for information on safe handling.
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 industrial hygiene and safety practices. Avoid contact with skin and eyes. Do not ingest. Do not breathe vapours. Use personal protective equipment as required. Wash thoroughly after handling. Avoid residues of the product on the containers. If the material has to be melted we recommend a water bath with a maximum temperature of 50 °C. Heated chambers are also permissible.

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: Store in the original receptacle, keeping this tightly sealed, under cool and dry conditions. Well ventilated. Protect from sunlight, warmth and heat.

7.3 Specific end use(s): Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits: Not available.

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

8.1.3 DNEL/DMEL and PNEC-Values: Not available.

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.35 mg/m³
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.1 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.18 mg/m³
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=0.05 mg/kg bw/day
Hazard for aquatic organisms	Freshwater	PNEC=0.1 mg/L
Hazard for aquatic organisms	Marine water	PNEC=0.01 mg/L
Hazard for aquatic organisms	STP	PNEC=100 mg/L
Hazard for aquatic organisms	Sediment (freshwater)	PNEC= 3.026 mg/kg sediment dw
Hazard for aquatic organisms	Sediment (marine water)	PNEC= 0.303 mg/kg sediment dw
Hazard for terrestrial organisms	Soil	PNEC= 0.546 mg/kg soil dw

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Ensure suitable suction/aeration at the work place and with operational machinery. Provide for installation of emergency shower and eye bath.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses with side-shields conforming to EN166 or when handling larger quantities: basket-shaped glasses.

Skin protection

Hand protection: Applies to handling for brief periods or of small amounts:
Glove material: Nitrile, for example, Dermatril P 743, Kächele-Cama Latex GmbH (KCL), Germany. Material thickness: 0.20 mm. Method: DIN EN 374.
Applies to handling for longer periods or of large amounts:
Glove material: Chloroprene, for example: Camapren 720, Kächele-Cama Latex GmbH (KCL), Germany. Material thickness: 0.65 mm. Method: DIN EN 374.

Body protection: Usual lab protective clothing or when handling larger quantities: chemical protective suit, disposable protective suit.

Respiratory protection: Use suitable respiratory protection where aerosols/vapours are generated.
When handling for a short time: Respirator with brown A-type filter. In the event of prolonged exposure during handling: Respirator with ABEK-P2 combination filter. Note time limit for wearing respiratory protective equipment.

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:

Appearance: Liquid or Crystal

Colour: Slightly Yellowish

Odour: Not available

Odour threshold: Not available

pH: Not available

Melting point/range (°C): 24-26°C; 17-21°C

Boiling point/range (°C): 144°C/3mmHg; 197°C/N2760mmNg

Flash point (°C): 355°C

Evaporation rate: Not available

Flammability limit - lower (%): Not available

Flammability (solid, gas):	Not available
Ignition temperature (°C):	Not available
Upper/lower explosive limits:	Not available
Vapour pressure (20°C):	0.00017 Pa
Vapour density:	Not available
Relative Density for pure TAIC:	1.14-1.16(30°C)
Bulk density (kg/m^3):	Not available
Water solubility (g/l):	>1 g/L
n-Octanol/Water (log Po/w):	log Pow=2.2(25°C, PH=5-6)
Auto-ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not explosive
Oxidising properties:	Not available
Molecular Formula:	$C_{12}H_{15}N_3O_3$
Molecular Weight for pure TAIC:	249.27

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:	Risk of a polymerisation triggered by exothermic reaction above 70°C.
10.4 Conditions to avoid:	Incompatible materials. Avoid temperatures in excess of 60°C for longer periods. Exposure to light.
10.5 Incompatible materials:	Allyl alcohol(hydrolysis product), hydrogen cyanide(HCN).
10.6 Hazardous decomposition products:	Carbon oxides, nitrogen oxides (NOx).

Section 11 Toxicological information

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

Acute toxicity:	
LD50(Oral, Rat):	707 mg/kg bw(male); 812 mg/kg bw(female)
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified

STOT- single exposure:	Not classified
STOT-repeated exposure:	May cause damage to organs through prolonged or repeated exposure.
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):	>100 mg/L
EC50(48h, Daphnia):	340 mg/L
EC50(72h, Algae/aquatic plants):	>100 mg/L
Chronic (long-term) toxicity:	
NOEC(Fish):	Not available
NOEC(Crustacea):	Not available
EC50(Algae/aquatic plants):	Not available
12.2 Persistence and degradability:	Not readily biodegradable.
12.3 Bioaccumulative potential:	Not available
12.4 Mobility in soil:	Not available
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	Not regulated	Not regulated	Not regulated	Not regulated
14.2 UN Proper shipping name	Not regulated	Not regulated	Not regulated	Not regulated

14.3 Transport hazard Class(es)	Not regulated	Not regulated	Not regulated	Not regulated
14.4 Packing group	Not regulated	Not regulated	Not regulated	Not regulated
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	Not regulated	Not regulated	Not regulated	Not regulated

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 [ ] NO [X]

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2020/878

16.2 Abbreviations and acronyms:

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

RID: Regulation for rail International transportation of Dangerous goods

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
Acute Tox. 4	H302	On basis of test data
Acute Tox. 4	H312	On basis of test data
STOT RE 2	H373	On basis of test data

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

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H373: May cause damage to organs through prolonged or repeated exposure.

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.