

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

GHS Product identifier: เอสເອີຟ-32B
SF-32B

Other means of identification
SDS number: A0013080

Recommended use of the chemical and restrictions on use

Recommended use: FURAN RESIN

Recommended restrictions: Not known.

Supplier's details

Manufacturer

Company Name: Kao Industrial (Thailand) Co.,Ltd.
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Klongtoey Sub-district, Klongtoey District, Bangkok 10110, Thailand
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2. Hazard(s) identification

GHS classification

Health Hazards

Acute toxicity (Oral)	Category 4
Acute toxicity (Dermal)	Category 4
Acute toxicity (Inhalation - vapor)	Category 3
Acute toxicity (Inhalation - dust and mist)	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 2
Specific Target Organ Toxicity - Single Exposure	Category 3 (Respiratory tract irritation.)
Specific Target Organ Toxicity - Repeated Exposure	Category 2 (Respiratory system, nasal tissue)

Unknown toxicity - Health

Acute toxicity, oral	32.66 %
Acute toxicity, dermal	32.66 %
Acute toxicity, inhalation, dust or mist	34.46 %

Environmental Hazards

Acute hazards to the aquatic environment Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment 29.91 %

Chronic hazards to the aquatic environment 32.66 %

Label Elements**Pictograms:**

Signal Word: Danger

Hazard Statement: Toxic if inhaled. Harmful if swallowed, in contact with skin or if inhaled. Causes skin irritation. Causes serious eye irritation. Suspected of causing cancer. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life.

Precautionary Statements**Prevention:**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Do not mix with hardening agents directly. May cause exothermic reaction/boiling violently and gush from a container.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Passed to a licensed waste contractor.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
Furfuryl alcohol		98-00-0	30 - 40%
Urea formaldehyde resin			1 - 5%
Aryl carboxylic acid potassium salt		582-25-2	
Furfural		98-01-1	0.1 - 0.7%
Benzoic acid		65-85-0	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

Inhalation: Call a POISON CENTER or doctor/ physician. Remove person to fresh air and keep comfortable for breathing.

Skin Contact: Gently wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Take off contaminated clothing and wash before re-use.

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms persist.

Ingestion: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell.

Personal Protection for First-aid Responders: No data available.

Most important symptoms and effects, both acute and delayed
Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Powder, alcohol-resistant foam, water spray, carbon dioxide,sand
Unsuitable extinguishing media:	No data available.
Special hazards arising from the substance or mixture:	Produce irritating or toxic gases in a fire.
Special protective equipment and precautions for fire-fighters	
Special fire-fighting procedures:	Keep away from sources of ignition and use appropriate extinguishing media. Fight fire from upwind position if possible. Product itself is non-combustible. Do not flow the materials causing adverse effects into the environment with effluent fire extinguishing agents.
Special protective equipment for fire-fighters:	Use goggles in combination with dust mask, and other protections as appropriate to situation. Risk of producing harmful gases such as carbon monoxide and nitrogen oxides. Avoid inhalation of smoke or gases.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Use goggles and protective gloves. Large spills : Remove person to safety. Ensure adequate ventilation.
Accidental release measures:	No data available.
Methods and material for containment and cleaning up:	Small spills: Absorb spills with sand, inert absorbent, waste cloth or sawdust. Then wipe up remainder in waste cloth. Large spills: Dike spills and dispose of in safe area.
Environmental Precautions:	Avoid release to the environment.

7. Handling and storage

Handling

Technical measures:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Local/Total ventilation:	Use an adequate ventilation.

Safe handling advice:

Use an adequate ventilation. Wash thoroughly after handling. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using the product. Avoid contact with acids.

Contact avoidance measures:

No data available.

Storage**Safe storage conditions:**

Keep container tightly closed. Store in a well-ventilated place. Store locked up. Do not store with acids.

Safe packaging materials:

No data available.

8. Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Chemical Identity	Type	Exposure Limit Values		Source
Furfuryl alcohol	TWA	50 ppm		TH OEL (08 2017)
Furfural	TWA	5 ppm		TH OEL (08 2017)
Furfuryl alcohol	TWA	0.2 ppm		ACGIH (03 2017)
Aryl carboxylic acid potassium salt - Inhalable fraction. - as benzoate	TWA		2.5 mg/m3	ACGIH (01 2022)
Furfural	TWA	0.2 ppm		ACGIH (03 2017)
Benzoic acid - Inhalable fraction and vapor.	TWA		0.5 mg/m3	ACGIH (01 2022)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Appropriate Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use an adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection: Safety glasses

Hand Protection: Gloves (solvent-resistant)

Other: Solvent-resistant protective clothing

Respiratory Protection: Use chemical cartridge respirator for organic solvents, as appropriate to situation.

Hygiene measures: No data available.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Physical state:	Liquid
Form:	Liquid, turbid
Color:	Dark brown
Odor:	Furfuryl alcohol-like odour
Odor Threshold:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flammability:	No

Upper/lower limit on flammability or explosive limits

Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Flash Point:	Not detected
Autoignition Temperature:	No data available.
Decomposition Temperature:	No data available.
pH:	7 Method: 5% solution

Viscosity

Dynamic viscosity:	16 mPa.s (25 °C/77 °F) 10 mPa.s (40 °C/104 °F)
Kinematic viscosity:	No data available.
Flow Time:	No data available.

Solubility(ies)

Solubility in Water:	Slightly Soluble
Solubility (other):	Soluble in alcohols
Partition coefficient (n-octanol/water):	No data available.
Vapor pressure:	No data available.
Relative density:	No data available.
Density:	1.162 g/ml (25 °C/77 °F) 1.155 g/ml (40 °C/104 °F)

Relative vapor density:

No data available.

Particle characteristics

Particle Size:	No data available.
Particle Size Distribution:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Stable in general.
Possibility of hazardous reactions:	Reacts violently with strong acids.
Conditions to avoid:	Contact with acids.
Incompatible Materials:	Avoid contact with acids.
Hazardous Decomposition Products:	Carbon dioxide

11. Toxicological information

Acute toxicity (list all possible routes of exposure)

Oral Product:	ATEmix: 491 mg/kg
Dermal Product:	ATEmix 1,042 mg/kg
Inhalation Product:	Vapour: ATEmix2.92 mg/l Dust and mist: ATEmix2.24 mg/l

Skin Corrosion/Irritation Product:	No data available.
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Components:	
Furfuryl alcohol	Category 2: (84)
Urea formaldehyde resin	Category 3: (34)
Aryl carboxylic acid potassium salt	Category 2: (88)
Furfural	Category 2: (87)
Benzoic acid	Category 2: (87)

Serious Eye Damage/Eye Irritation Product:	No data available.
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Components:	
Furfuryl alcohol	Category 2A: (84)
Urea formaldehyde resin	Category 2B: (34)
Aryl carboxylic acid potassium salt	Category 1: (88)
Furfural	Category 2: (87)
Benzoic acid	Category 1: (87)

Respiratory or Skin Sensitization

Product: Skin: Classification not possible due to insufficient data.
Respiratory: Classification not possible due to insufficient data.

Carcinogenicity

Product: No data available.

Components:

Furfuryl alcohol Category 2: (84)
Furfural Category 2: (87)

IARC:

Furfuryl alcohol Group 2B. Possibly carcinogenic to humans.

Germ Cell Mutagenicity**In vitro**

Product: Classification not possible due to insufficient data.

In vivo

Product: Classification not possible due to insufficient data.

Reproductive toxicity

Product: Classification not possible due to insufficient data.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Components:

Furfuryl alcohol Category 3: respiratory tract irritant: (84)
Urea formaldehyde resin Category 2: Nervous system, Respiratory organs: (34)
Furfural Category 3: respiratory tract irritant: (87)

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Components:

Furfuryl alcohol Category 2: Respiratory system, nasal tissue: (84)
Urea formaldehyde resin Category 2: Central nervous system, Respiratory organs: (34)
Benzoinic acid Category 1: Lung: (87)

Aspiration Hazard

Product: Classification not possible due to insufficient data.

Other effects:

No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**
Product:

No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components:

Urea formaldehyde resin	Category 2 (34)
Furfural	Category 3 (88)
Benzoic acid	Category 3 (8)

Chronic hazards to the aquatic environment**Fish**

Product: Classification not possible due to insufficient data.

Aquatic Invertebrates

Product: Classification not possible due to insufficient data.

Components:

Furfural	Category 3 (88)
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Persistence and Degradability**Biodegradation**

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential**Bioconcentration Factor (BCF)**

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil:

No data available.

Other adverse effects:

No data available.

13. Disposal considerations

Disposal methods: Review "HANDLING AND STORAGE (Section 7)". Passed to a licensed waste contractor. Incinerate with little portions. Risk of producing harmful gases such as carbon monoxide and nitrogen oxides.

Contaminated Packaging: No data available.

14. Transport information

IATA

UN Number:	UN 2874
UN Proper Shipping Name:	Furfuryl alcohol
Transport Hazard Class(es):	
Class:	6.1
Label(s):	6.1
Packing Group:	III
Excepted quantity	E1
Environmentally Hazardous:	No
Marine Pollutant:	No
Special precautions for user:	Not Regulated
Other information	
Passenger and cargo aircraft:	Allowed. 655
Cargo aircraft only:	Allowed. 663

IMDG

UN Number:	UN 2874
UN Proper Shipping Name:	FURFURYL ALCOHOL
Transport Hazard Class(es)	
Class:	6.1
Label(s):	6.1
EmS No.:	F-A, S-A
Packing Group:	III
Limited quantity	5.00L
Excepted quantity	E1
Environmentally Hazardous:	No
Marine Pollutant:	No
Special precautions for user:	Not Regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

Domestic Standard: In compliance with domestic law.

Emergency Response Guide Number: 154

15. Regulatory information

Safety, health and environmental regulations specific for the product in question

Thailand. Reportable Hazardous Substances (Notification of Ministry of Industry Re: Bases respecting report of quantity of hazardous materials under Department of Industrial Works, B.E. 2547)

Not Regulated

Thailand. List of Hazardous Substances (Notification of Ministry of Industry Re: List of Hazardous Substances B.E. 2556, Annex: Schedules 1 - 6)

Furfural
Formaldehyde

Inventory Status:

US TSCA Inventory:	Not in compliance with the inventory
Canada DSL Inventory List:	Not in compliance with the inventory
Australia AICS:	Not in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	Not in compliance with the inventory
Japan (ENCS) List:	Not in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory
Philippines PICCS:	Not in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory
REACH (EU):	Contact us for information
Taiwan Chemical Substance Inventory:	Not in compliance with the inventory

16. Other information, including date of preparation or last revision

Issue Date: 09.03.2023

Version #: 1.0

Source of information: No data available.

Further Information: No data available.

Disclaimer: To the best of the manufacturer's knowledge, the information contained herein is accurate. However, neither the manufacturer, nor any of its affiliates, make any representations or warranties (expressed or implied), nor assumes any liability (including liability for any direct, incidental, consequential, or other damages) with respect to the accuracy or completeness of the information contained herein. Such information may be (without limitation) invalid if the specified material is used in combination with another, in a particular process, or under unusual conditions. Determination of suitability of any material for any given purpose is the sole responsibility of the user who assumes all risk and responsibility therefore. All materials may present unknown hazards and should be used with appropriate caution. The manufacturer cannot and does not guarantee that the hazards described herein are the only ones that exist. In the case of the product for fragrance, it's in accordance with the latest standard of IFRA within ordinary use. Contact with the supplier for detail information.

Reference:

- (8): OECD SIDS
- (34): Safety data sheet of the raw material
- (84): IFRA-IOFI LABELING MANUAL
- (87): EU CLP Regulation Annex VI
- (88): ECHA-REACH Registered Substances Database