

Ministry of Employment and Labor	Material Safety Data Sheet	Industrial Accident Prevention Korea Occupational Safety and Health Agency (KOSHA)
		AA00569-0000000035

#### 1. PRODUCT AND COMPANY IDENTIFICATION

A. Product Name	BREFO 52 XK
B. Recommended Use and Restrictions on Use	
Recommended use	Defoamer
Restrictions on use	At this moment we have not identified any uses advised against
C. Supplier Information	
Company Name	GloryGlobal Co., Ltd.
Address	Room 1004, Seoul-Technopark, inside Seoul Tech, 232, Gongneung-ro, Nowon-gu, Seoul, Korea 01811
Emergency Phone Number	82-2-6223-0862

#### 2. Hazards identification

A. Classification of the substance or mixture	The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.
B. GHS Label Elements, including precautionary statements	
Pictogram	Not Applicable
Signal Word	Warning
Hazard Statements	Not Applicable
Precautionary Statements	
Prevention:	No data available
Response:	No data available
Storage:	No data available
Disposal:	No data available
C. Other hazards which do not result in classification	
Storage:	This product does not contain any substances identified as persistent, bioaccumulative and toxic (PBT).
Storage:	This product does not contain any endocrine disrupting substances based on evaluation under REACH and related regulations.

#### 3. Composition / Information on Ingredients

Chemical Name	BREFO 52 XK
Synonyms (Common Name / Trade Name)	
CAS No.	63148-62-9
Concentration	100%

#### 4. First Aid Measures

A. In case of eye contact	Rinse immediately with plenty of water and seek medical advice.
B. In case of skin contact	Wash with warm water and soap. Seek medical advice if necessary.
C. If inhaled	Move to fresh air. Seek medical attention if symptoms persist or worsen.

- |                         |  |
|-------------------------|--|
| D. If swallowed         | Rinse mouth with water. Do not give anything to an unconscious person. Seek medical advice if symptoms persist.        |
| E. Other medical advice | Health effects: See Section 11 for detailed information.<br>Provide immediate medical treatment according to symptoms. |

## 5. Firefighting Measures

- |  |   |
|--|---|
| A. Suitable (and unsuitable) extinguishing media         |   |
| Suitable extinguishing media                             | Use extinguishing media appropriate to the surrounding fire.  |
| Unsuitable extinguishing media                           | High-pressure water spray.  |
| B. Specific hazards arising from the chemical            |   |
|  | Carbon monoxide (CO), carbon dioxide (CO <sub>2</sub> )   |
| C. Protective equipment and precautions for firefighters |   |
|  | Protective equipment: Wear self-contained breathing apparatus (SCBA).<br>Cool containers exposed to fire with water spray. Collect contaminated extinguishing water separately. |

## 6. Accidental Release Measures

- |  |  |
|--|--|
| A. Personal precautions, protective equipment and emergency procedures |  |
|  | Avoid contact with skin and eyes. Wear appropriate personal protective equipment.  |
| B. Environmental precautions   |  |
|  | Prevent entry into waterways, sewers, basements, or confined areas.  |
| C. Methods and materials for containment and cleaning up               |  |
|  | Absorb with inert absorbent materials (e.g., sand, diatomite), then place in a sealed container for disposal.<br>Refer to Section 8 for personal protective equipment.<br>Refer to Section 13 for disposal considerations. |

## 7. Handling and Storage

- |   |   |
|---|---|
| A. Precautions for safe handling                                |   |
|   | Use sealed containers.<br>Ensure adequate ventilation.  |
| B. Conditions for safe storage, including any incompatibilities |   |
|   | Store in a cool, dry, and well-ventilated area.<br>Do not smoke, eat, or drink in application areas.<br>Wash hands before breaks and after work.<br>Maintain sufficient ventilation.<br>Avoid contact with skin and eyes. |

## 8. Exposure Controls / Personal Protection

- |  |
|--|
| A. Exposure Limits of Chemicals, Biological Exposure Indices, etc. |
|--|

Domestic Regulations	
ACGIH	Not Applicable
Biological Exposure Indices	Not Applicable
Other Exposure Limits	No Data Available
B. Appropriate Engineering Controls	Maintain adequate ventilation at the workplace.
C. Individual Protection Measures	
Respiratory Protection:	Use appropriate respiratory protection if exposure limits are exceeded (e.g., OEL).
Eye Protection:	Wear protective gloves in case of prolonged or repeated contact. Replace gloves immediately if signs of wear or degradation are observed. Use protective gloves compliant with EN 374. Use safety goggles.
Hand Protection:	Wear protective gloves in case of prolonged or repeated contact.
Skin and Body Protection:	Recommended: Wear protective work clothing compliant with EN ISO 20345.

## 9. Physical and Chemical Properties

A. Appearance	
Physical state:	Liquid
Color:	White
B. Odor	Distinctive odor
C. Odor Threshold	Not available
D. pH	5 (20°C)
E. Melting/Freezing Point(°C)	0°C
F. Initial Boiling Point and Boiling Range	100°C
G. Flash Point	> 120°C
H. Evaporation Rate:	
I. Flammability (solid, gas):	
J. Upper/Lower Flammability or Explosive Limits	Not applicable
K. Vapor Pressure	No data available
L. Solubility	Soluble in water
M. Vapor Density	Density: 1,0 g/cm <sup>3</sup> (20 °C) Relative Vapor Density: No data available
N. Specific Gravity	No data available
O. n-Octanol/Water Partition Coefficient:	No data available
P. Auto-Ignition Temperature:	No data available
Q. Decomposition Temperature:	No data available
R. Viscosity:	500 mPa.s (20 °C)
S. Molecular Weight:	No data available

## 10. Stability and Reactivity

### A. Chemical Stability and Possibility of Hazardous Reactions

No hazardous reactions are known under normal conditions of use.

Stable under recommended storage conditions.

### B. Conditions to Avoid (e.g., static discharge, shock, vibration)

Heat, flames, sparks

### C. Incompatible Materials

Strong oxidizing agents

### D. Hazardous Decomposition Products

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), formaldehyde

## 11. Information on Likely Routes of Exposure

### A. Possible routes of exposure: inhalation, skin contact, eye contact, ingestion

### B. Health Hazard Information

#### Acute Toxicity

Oral > 2000 mg/kg (Rat)

Dermal > 2000 mg/kg (Rat)

Inhalation No specific hazards identified

Skin Corrosion/Irritation No data available

Serious Eye Damage/Eye Irritation No data available

Respiratory Sensitization No data available

Skin Sensitization No data available

Carcinogenicity: Contains no carcinogenic substances

Industrial Safety and Health Act:

Complies with relevant provisions

Germ Cell Mutagenicity: No mutagenic substances present

Reproductive Toxicity: Contains no substances classified as reproductive toxicants

Specific Target Organ Toxicity –  
Single Exposure: Not classified

Specific Target Organ Toxicity –  
Repeated Exposure: Not classified

Aspiration Hazard: No data available

Other Adverse Effects: Endocrine-disrupting properties: This substance/mixture does not contain components at ≥ 0.1% with endocrine-disrupting properties according to REACH and related regulations

## 12. Ecological Information

### A. Ecotoxicity

Fish	No known significant effects or critical hazards.
Crustaceans	No known significant effects or critical hazards.
Algae	No known significant effects or critical hazards.
Bacteria	

### B. Persistence and Degradability

Persistence	No data available.
Degradability	Easily biodegradable.

### C. Bioaccumulation

Bioaccumulation	Does not accumulate in organisms.
Biodegradability	No data available.

### D. Soil Mobility

No data available.

### E. Other Adverse Effects

This mixture is not classified as a PBT (Persistent, Bioaccumulative, and Toxic) substance.

This mixture is not classified as a vPvB (very Persistent and very Bioaccumulative) substance.

This substance/mixture does not contain any component with endocrine-disrupting properties at a concentration of 0.1% or more, according to REACH Annex XVII, EU Delegated Regulation 2017/2100, or EU Regulation 2018/605.

This substance/mixture must not be released into the environment.

## 13. Disposal Considerations

### A. Disposal Methods

Product: Do not dispose of with general waste. Special disposal required in accordance with local regulations. Do not discharge into drains. Consult a waste disposal professional.

Contaminated Containers: Empty containers may be recycled. Containers that cannot be cleaned should be disposed of in the same manner as the product.

### B. Disposal Precautions

Consider precautions outlined in the Waste Management Regulations where applicable.

European Waste Catalogue Code: No specific disposal code is assigned to this product. Consult local waste disposal authorities based on the intended use.

## 14. Transport Information

A. UN No.	Not applicable
B. Proper Shipping Name	Not applicable
C. Hazard Class (for transport)	
IMDG	Not applicable
IATA	Not applicable

D. Packing Group	Not applicable
E. Marine Pollutant	Not applicable
F. Special Precautions for User or Transportation Information:	
Emergency measures in case of fire	Not applicable
Emergency measures in case of leakage/spillage	Not applicable

## 15. Regulatory Information

A. Regulations under the Occupational Safety and Health Act	
B. Regulations under the Chemical Control Act	
C. Regulations under the Hazardous Materials Safety Control Act	
D. Regulations under the Wastes Control Act	Designated waste
E. Other Domestic and International Regulations	
Domestic	
Persistent Organic Pollutants Control Act	Not applicable
International	
U.S. Regulatory Information (OSHA)	Not applicable
U.S. Regulatory Information(CERCLA)	Not applicable
U.S. Regulatory Information(EPCRA 302)	Not applicable
U.S. Regulatory Information(EPCRA 304)	Not applicable
U.S. Regulatory Information((EPCRA 313)	Not applicable
U.S. Regulatory Information(Rotterdam Convention Chemicals)	Not applicable
U.S. Regulatory Information(Stockholm Convention Chemicals)	Not applicable
U.S. Regulatory Information(Montreal Protocol Substances)	Not applicable
U.S. Regulatory Information(SARA 311/312 Hazard Categories)	Fire Hazard: Not applicable

	Pressure Hazard: Not applicable
	Reactivity Hazard: Not applicable
	Acute Health Hazard: Not applicable
	Chronic Health Hazard: Not applicable
U.S. Regulatory Information(SARA 313)	Notification: Not applicable
	SARA Title III Section 313: This product is not subject to the reporting requirements of SARA Title III Section 313 and does not contain any chemicals listed under this regulation.
U.S. Regulatory Information(TSCA 13)	Notification: Not applicable
U.S. Cosmetic, Toiletry, and Fragrance Association (CTFA)	Not applicable
Canadian Workplace Hazardous Materials Information System (WHMIS)	This product is not a controlled product under WHMIS.
EU Classification Information(Confirmed Classification Results)	Not applicable
EU Classification Information(Risk Phrases)	Not applicable
EU Classification Information(Safety Phrases)	Not applicable

## 16. Other Information

A. Source of Data:	Based on the European Chemicals Agency (ECHA) registration database.
B. Date of First Issue:	
C. Number of Revisions and Date of Last Revision:	
Number of Revisions	
Date of Last Revision	2025-03-20
D. Other Information	Abbreviations and terminology used in this SDS are in accordance with international chemical safety standards
AU AIICL	Australia. Industrial Chemicals Act (AIIC) List
BCF	bioconcentration factor
BOD	biochemical oxygen demand
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	carcinogenic, mutagenic or toxic to reproduction
COD	chemical oxygen demand
DNEL	derived no-effect level
DSL	Canada. Environmental Protection Act, Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ENCS (JP)	Japan. Kashin-Hou Law List
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IECSC	China. Inventory of Existing Chemical Substances
INSQ	Mexico. National Inventory of Chemical Substances

ISHL (JP) Japan. Inventory of Industrial Safety & Health  
 KECI (KR) Korea. Existing Chemicals Inventory  
 LC50 median lethal concentration  
 LOAEC lowest observed adverse effect concentration  
 LOAEL lowest observed adverse effect level  
 LOEL lowest observed effect level  
 PHARM (JP) Japan. Pharmacopoeia Listing  
 PICCS (PH) Philippines. Inventory of Chemicals and Chemical Substances  
 PNEC predicted no-effect concentration  
 PREACH Auth no.: REACH Authorisation Number  
 REACH AuthAppC. No. REACH Authorisation Application Consultation Number  
 UK REACH Auth. No.: UK REACH Authorisation Number  
 UK REACH AuthAppC. No. UK REACH Authorisation Application Consultation Number  
 UK REACH-Reg.No UK REACH Registration Number  
 STOT specific target organ toxicity  
 SVHC substance of very high concern  
 TCSI Taiwan. Existing Chemicals Inventory  
 TH INV Thailand. Existing Chemicals Inventory from FDA  
 TSCA US. Toxic Substances Control Act  
 UVCB substance of unknown or variable composition, complex reaction products or biological materials  
 VN INVL Vietnam. National Chemical Inventory

This information is based on sources believed to be reliable; however, it is provided without warranty regarding accuracy or suitability.

It may not be valid if the product is used in combination with other materials or in any process other than those specifically stated.