

SECTION 1: Identification of the substance or mixture and of the supplier

1.1. GHS product identifier or other means of identification of the product/chemicals

Product form	: Substance
Trade name	: Mowital® B
Chemical name	: polyvinyl butyral
Synonyms	: B 14 S, B 16 H, B 20 H, B 30 H, B 30 HH, B 30 T, B 45 H, B 60 H, B 60 HH, B 60 T, B 75 H
Type of product	: Polymer
CAS-No.	: 68648-78-2 or 63148-65-2
Product code	: 200002

1.2. Recommended use and restriction on use

Recommended use	: Industrial use Temporary binder for ceramics Adhesives Coating 3d printing Printing inks
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1.3. Supplier's details

Manufacturer/Supplier

Kuraray Europe GmbH
Philipp-Reis-Str. 4
65795 Hattersheim am Main
Germany
T +49 (0)69 305 85300
product-safety@kuraray.com

Email competent person

product-safety@kuraray.com

Importer

Kuraray Asia Pacific Pte. Ltd.
250 North Bridge Road
#10-01/02 Raffles City Tower
Singapore 179101
T +65-6337-4123

1.4. Emergency phone number

Emergency number	: +65-3158-6734 (Access Code: 334674)
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SECTION 2: Hazards identification

2.1. GHS classification

Classification according to circular 32/2017/TT-BCT

Not classified

2.2. GHS label elements

No labelling applicable

2.3. Other hazards

No additional information available

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According to Circular No. 32/2017/TT-BCT of December 28, 2017, specifying a number of articles of the Law on Chemicals.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical name : polyvinyl butyral
CAS-No. : 68648-78-2 or 63148-65-2

Name	Product identifier	%	Classification according to circular 32/2017/TT-BCT
polyvinyl butyral (Main constituent)	CAS-No.: 63148-65-2	> 97.5	Not classified
water (Impurity)	CAS-No.: 7732-18-5	< 2.4	Not classified
butyraldehyde (Impurity)	CAS-No.: 123-72-8	< 0.05	Flam. Liq. 2, H225 Eye Irrit. 2B, H320 Aquatic Acute 3, H402
sodium chloride (Impurity)	CAS-No.: 7647-14-5	< 0.05	Acute Tox. 5 (Oral), H303

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : In all cases of doubt, or when symptoms persist, seek medical attention. Contact with dust: Irritating to eyes and mucous membranes.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects : Irritation of the respiratory tract, skin, eyes and mucous membranes possible.

4.3. Indication of immediate medical attention and special treatment needed

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Water fog. Foam. Dry powder. Carbon dioxide.
Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards that form when the chemical burns

Fire hazard : Could burn but do not ignite readily. The product may form dust and build up electrostatic charges, which may produce an electric spark (ignition source). Proper grounding procedures to avoid static electricity should be followed.
General measures : Avoid contact with skin, eyes and clothing. Concerning personal protective equipment to use, see section 8.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon dioxide. Carbon monoxide.

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5.3. Protective equipment and clothing and necessary warnings for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Protective equipment and incident response procedures

General measures : Avoid contact with skin, eyes and clothing. Concerning personal protective equipment to use, see section 8.

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Environmental manager must be informed of all releases.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Avoid dust formation. Collect dust or particulates using a vacuum cleaner with a HEPA filter.

Other information : Disposal must be done according to official regulations.

SECTION 7: Handling and storage

7.1. Measures and conditions for safe handling of hazardous chemicals

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Minimize dust generation/release and accumulation. Avoid creating or spreading dust. The material must not be deposited in large quantities, especially on horizontal surfaces, as it could become released into the air from there, form flammable dust clouds and contribute to secondary explosions. Any unavoidable deposit of dust must be regularly removed. Prevent build-up of electrostatic charges (e.g. by grounding). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Provide appropriate exhaust ventilation at places of dust forming. Use only in well-ventilated areas. Observe recognised industrial hygiene measures. Avoid prolonged and repeated contact with skin.

Technical measures : Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Hygiene measures : Do not eat, drink or smoke when using this product.
Always wash hands after handling the product

7.2. Measures and conditions for safe storage

Storage conditions : Store in a well-ventilated place. Keep cool.

Incompatible materials : Keep away from strong acids and strong oxidizers.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

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8.3. Personal protective measures and equipment

Hand protection:

In case of repeated or prolonged contact wear gloves. ISO 374-1. Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Gloves must be replaced after each use and whenever signs of wear or perforation appear

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Nitrile rubber	Nitrile rubber	6 (> 480 minutes)	0,12		EN ISO 374

Eye protection:

Sealed safety goggles. ISO 16321-1

Skin and body protection:

Wear suitable protective clothing. EN ISO 13688

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Dust production: dust mask with filter type P2. EN 143. Short term exposure. Breathing equipment is only to be used in order to handle the residual risk of short term jobs if all other risk minimizing measures have been carried out e.g. retention and/or local exhaust

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: colourless
Odour	: odourless
Odour threshold	: No additional information available
pH	: No additional information available
Melting point, Freezing point	: Freezing point: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable.
Flammability (solid, gas)	: Could burn but do not ignite readily.
Vapour pressure	: Vapour pressure: Not applicable
Evaporation rate	: Relative evaporation rate (butylacetate=1): Not applicable
Explosive limits	: No additional information available
Explosive properties	: Product is not explosive.
Minimum ignition energy	: No data available
Solubility	: No additional information available
Density	: Relative density: Not specifically applicable
Relative density	: Relative vapour density at 20°C: Not applicable Relative gas density: Not specifically applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Oxidising properties	: Non oxidizing.
VOC content	: < 0.1 %
Additional information	: Vicat softening temperature 50 - 63 °C DIN EN ISO 306

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Chemical stability	: Stable under normal conditions.

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Hazardous reaction	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid creating or spreading dust.
Incompatible materials	: Strong acids, Strong oxidizing agent
Decomposition and hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Acute toxicity

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified

polyvinyl butyral (68648-78-2 or 63148-65-2)	
Viscosity, kinematic	Not applicable
(63148-65-2)	
Animal studies and expert judgment for classification	False
water (7732-18-5)	
Animal studies and expert judgment for classification	False
butyraldehyde (123-72-8)	
Animal studies and expert judgment for classification	False
sodium chloride (7647-14-5)	
Animal studies and expert judgment for classification	False
Potential adverse human health effects and symptoms	: Dust may irritate the respiratory tract, skin and eyes.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute)	: Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic)	: Not classified (Based on available data, the classification criteria are not met)

butyraldehyde (123-72-8)	
LC50 - Fish [1]	25.8 mg/l (96 h; Pimephales promelas; EPA-660/3-75-009)
EC50 - Crustacea [1]	195 mg/l (24 h; Daphnia magna; DIN 38412 / 11)
NOEC chronic fish	13.7 mg/l (14 d; LC50; Poecilia reticulata; (OECD 204 method))
Bioconcentration factor (BCF REACH)	3.162 (calculated value)
Partition coefficient n-octanol/water (Log Pow)	1.3 (20 °C; pH 4.4 - 4.7; (OECD 107 method))

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sodium chloride (7647-14-5)	
LC50 - Fish [1]	5840 mg/l (96 h; Lepomis macrochirus)
EC50 - Crustacea [1]	4136 mg/l (static; 48 h; Daphnia magna; (OECD 202 method))
LOEC (chronic)	441 mg/l (21 d; Daphnia pulex; (OECD 211 method))
NOEC chronic fish	4000 mg/l (7 d; Pimephales promelas; EPA 600/4-89- 001)
NOEC chronic crustacea	314 mg/l (21 d; Daphnia pulex; (OECD 211 method))
Partition coefficient n-octanol/water (Log Pow)	-3

12.2. Persistence and degradability

polyvinyl butyral (68648-78-2 or 63148-65-2)	
Persistence and degradability	No data available.
butyraldehyde (123-72-8)	
Persistence and degradability	Readily biodegradable.
Biodegradation	46 – 57 % (5 d; (OECD 301C method))
sodium chloride (7647-14-5)	
Persistence and degradability	Not applicable.

12.3. Bioaccumulative potential

polyvinyl butyral (68648-78-2 or 63148-65-2)	
Bioaccumulative potential	No data available.
butyraldehyde (123-72-8)	
Bioconcentration factor (BCF REACH)	See section 12.1 on ecotoxicology3.162 (calculated value)
Partition coefficient n-octanol/water (Log Pow)	1.3 (20 °C; pH 4.4 - 4.7; (OECD 107 method))
sodium chloride (7647-14-5)	
Partition coefficient n-octanol/water (Log Pow)	-3

12.4. Mobility in soil

polyvinyl butyral (68648-78-2 or 63148-65-2)	
Mobility in soil	No additional information available
butyraldehyde (123-72-8)	
Surface tension	70 mN/m (20 °C; 1 g/L; (OECD 115 method))
Partition coefficient n-octanol/water (Log Pow)	1.3 (20 °C; pH 4.4 - 4.7; (OECD 107 method))
sodium chloride (7647-14-5)	
Partition coefficient n-octanol/water (Log Pow)	-3
Ecology - soil	Not applicable.

12.5. Other adverse effects

Other adverse effects : No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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SECTION 13: Disposal considerations

- Waste treatment methods : Disposal must be done according to official regulations. Do not discharge into drains or the environment. Do not dispose of with domestic waste.
- Product/Packaging disposal recommendations : Recycle or dispose of in compliance with current legislation.

SECTION 14: Transport information

IMDG	IATA	UNRTDG
14.1 UN number		
Not regulated for transport		
Not applicable	Not applicable	Not applicable
14.2 Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3 Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
14.4 Packing group		
Not applicable	Not applicable	Not applicable
14.5 Environmental hazards		
Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for users which need to be complied in transport

UN RTDG

No data available

IMDG

No data available

IATA

No data available

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations for the product

Law on Chemicals		
Vietnam Annex I: List of chemicals subject to conditional production or import	Contains listed substance(s)	butyraldehyde (123-72-8)
Vietnam Annex II: List of chemicals restricted from production or trade	No information available	
Vietnam Annex III: List of banned chemicals	No information available	
Vietnam Annex IV: List of hazardous chemicals for which chemical incident prevention and response plans are required	No information available	

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Law on Chemicals		
Vietnam Annex V: List of chemicals subject to compulsory declarations	Contains listed substance(s)	butyraldehyde (123-72-8)

National Chemical Inventory (NCI)		
National Chemical Inventory (NCI)	Contains listed substance(s)	polyvinyl butyral (63148-65-2) water (7732-18-5) butyraldehyde (123-72-8) sodium chloride (7647-14-5)

15.2. International regulations

No additional information available

SECTION 16: Other information

Data sources : Information provided by the manufacturer
Company : Kuraray Europe GmbH (Hattersheim am Main)
Version : 1.2
Issue date : 3/6/2023
Revision date : 7/11/2024

Data sources : Information provided by the manufacturer.
Department issuing data specification sheet: : KFT Chemieservice GmbH
Im Leuschnerpark 3
D-64347 Griesheim

Phone: +49 6155-8981-400
Fax: +49 6155 8981-500
SDS Service: +49 6155 8981-522

Contact person : Dr. Christian Rank
Abbreviations and acronyms : ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL - Derived Minimal Effect level
DNEL - Derived-No Effect Level
EC50 - Median effective concentration
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IMDG - International Maritime Dangerous Goods
LC50 - Median lethal concentration
LD50 - Median lethal dose
LOAEL - Lowest Observed Adverse Effect Level
NOAEC - No-Observed Adverse Effect Concentration
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
OECD - Organisation for Economic Co-operation and Development
PBT - Persistent Bioaccumulative Toxic
PNEC - Predicted No-Effect Concentration
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS - Safety Data Sheet
STP - Sewage treatment plant
TLM - Median Tolerance Limit
vPvB - Very Persistent and Very Bioaccumulative

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KFT SDS VN 01

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.