

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

1.1. Product identifier

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. Relevant identified uses of the substance or mixture and uses advised against

Recommended use	: Industrial use Temporary binder for ceramics Adhesives Coating 3d printing Printing inks
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1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier

Kuraray Europe GmbH
Philipp-Reis-Str. 4 Hattersheim am Main 65795 Germany
T +49 69 305-85300

Importer

Kuraray Asia Pacific Pte. Ltd.
250 North Bridge Road #10-01/02 Raffles City Tower 188720 Singapore
T +65-6337-4123
<http://kuraray.com.sg/>

Email competent person

product-safety@kuraray.com

1.4. Emergency telephone number

Emergency number	: +81-3689-08677 (Access Code: 334674)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to MOI notification B.E. 2555 (2012)

Not classified as a hazardous chemical

2.2. Label elements

Labelling according to MOI notification B.E. 2555 (2012)

No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification	: Fine particles may form explosive mixtures with air. Prevent dust accumulation to minimize explosion hazard. This material does not ignite easily; however, feasible precautions against dust explosion are recommended.
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SECTION 3: Composition/information on ingredients

3.1. Substances

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

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Name	Product identifier	%	Classification according to MOI notification B.E. 2555 (2012)
Polyvinylbutyral (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. 2, H319 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 necessary 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 and effects, both acute and delayed

Symptoms/effects	: Irritation of the respiratory tract, skin, eyes and mucous membranes possible.
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4.3. Indication of any immediate medical attention and special treatment needed

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire fighting measures

5.1. 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. Special hazards arising from the substance or mixture

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.

5.3. Special protective actions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Do not allow run-off from fire fighting to enter drains or water courses. Disposal must be done according to official regulations. Fine dust dispersed in air may ignite. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. The product is not flammable.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency 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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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.

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

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store in original tightly closed container.

SECTION 8: Exposure controls / Personal protection equipment

8.1. Control parameters

No additional information available

Exposure limit values for the other components

No additional information available

8.2. Monitoring

No additional information available

8.3. Appropriate engineering controls

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

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8.4. Personal protective equipment

Hand protection : In case of repeated or prolonged contact wear gloves. EN ISO 374. 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 : colorless, appearance white
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 : No additional information available
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 at 20°C: 1.1
Relative density : Not applicable
Viscosity, kinematic : Not applicable
Viscosity, dynamic : Not applicable
Oxidising properties : Non oxidizing.
VOC content : < 2.5 %
Additional information : Vicat softening temperature 50 - 63 °C DIN EN ISO 306

SECTION 10: Stability and reactivity

Chemical stability : Stable under normal conditions.
Conditions to avoid : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid creating or spreading dust.
Hazardous decomposition products : Carbon oxides (CO, CO2).
Incompatible materials : Strong acids. Strong oxidizing agent.
Possibility of hazardous reactions : No dangerous reactions known under normal conditions of use.
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

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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
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SECTION 12: Ecological information

12.1. Ecotoxicity

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)

12.2. Persistence and degradability

polyvinyl butyral (68648-78-2 or 63148-65-2)

Persistence and degradability	No additional information available
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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.
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12.3. Bioaccumulative potential

polyvinyl butyral (68648-78-2 or 63148-65-2)

Bioaccumulative potential	No additional information available
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butyraldehyde (123-72-8)

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))

sodium chloride (7647-14-5)

Partition coefficient n-octanol/water (Log Pow)	-3
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12.4. Mobility in soil

polyvinyl butyral (68648-78-2 or 63148-65-2)

Mobility in soil	No additional information available
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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))

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sodium chloride (7647-14-5)	
Partition coefficient n-octanol/water (Log Pow)	-3
Ecology - soil	Expected to be highly mobile in soil.

12.5. Other adverse effects

Ozone	: Not classified
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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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. UN 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. Special precautions for user

UN RTDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

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SECTION 15: Regulatory information

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

Other relevant regulations		
Thailand Existing Chemicals Inventory (DIW)	Applicable	Polyvinyl butyral (63148-65-2); Water (7732-18-5); Butyraldehyde (123-72-8); Sodium cholride (7647-14-5)

15.2. International agreements

Regional legislation

Australia AICS	: Yes
Canada DSL	: Yes
Canada NDSL	: No
China IECSC	: Yes
EU EINECS	: No
EU NLP	: No
Korea ECL	: Yes
US TSCA Active	: Yes
US TSCA Inactive	: No

SECTION 16: Other information

Version	: 1.00
Issue date	: 8/15/2023
Revision date	: 8/15/2023

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

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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

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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

Full text of H-statements:	
Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Aquatic Acute 3	Hazardous to the aquatic environment – Acute Hazard, Category 3
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour
H303	May be harmful if swallowed
H319	Causes serious eye irritation
H402	Harmful to aquatic life

KFT SDS TH 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.