

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form	: Substance
Trade name	: Mowital® B
Chemical name	: polyvinyl butyral
CAS-No.	: 68648-78-2 or 63148-65-2
Product code	: 200002
Type of product	: Polymer

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

Main use category	: Industrial use Temporary binder for ceramics; Coating; Adhesives; 3D printing; Additive/binder for primer, Printing ink
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1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier Kuraray Europe GmbH Philipp-Reis-Str. 4 65795 Hattersheim am Main Germany Telephone: +49-69-305-85300 Technical Contact: +49-69-305-13345	Email competent person product-safety@kuraray.com
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1.4. Emergency telephone number

Emergency number	: +1 760 4776 3959 access code: 334674
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SECTION 2: Hazards identification**2.1. Classification of the substance or mixture**

Classification according to Regulation (OG) 11.12.2013 - 28848 [SEA] (Amendment: (OG) 10.12.2020 - 31330)

Not classified	
Adverse physicochemical, human health and environmental effects	: To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

2.2. Label elements

Classification according to Regulation (OG) 11.12.2013 - 28848 [SEA] (Amendment: (OG) 10.12.2020 - 31330)

No labelling applicable

2.3. Other hazards**Other hazards not contributing to the classification**

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**

Trade name	: Mowital® B
CAS-No.	: 68648-78-2 or 63148-65-2
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

Name	Product identifier	%	Classification according to Regulation (OG) 11.12.2013 - 28848 [SEA] (Amendment: (OG) 10.12.2020 - 31330)
Polyvinylbutyral (Main constituent)	CAS-No.: 63148-65-2; 68648-78-2	> 97.5	Not classified
water (Impurity)	CAS-No.: 7732-18-5 EC-No.: 231-791-2	< 2.4	Not classified
butyraldehyde (Impurity)	CAS-No.: 123-72-8 EC-No.: 204-646-6 EC Index-No.: 605-006-00-2	< 0.05	Flam. Liq. 2, H225 Eye Irrit. 2, H319
sodium chloride (Impurity)	CAS-No.: 7647-14-5 EC-No.: 231-598-3	< 0.05	Not classified

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.
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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: Strong water jet.

5.2. Special hazards arising from the substance or mixture

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.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon dioxide. Carbon monoxide.

5.3. Advice for firefighters

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.

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 material for containment and cleaning up

Methods for cleaning up : Avoid formation of dust. Pick up dust with a vacuum cleaner with HEPA filter. Do not use compressed air for cleaning.

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

6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : 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 the original container well sealed. Store in a well-ventilated place. Keep cool.

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

Information about storage in one common storage facility : Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Temporary binder for ceramics. Additive/binder for primer. Varnish. coatings. Printing ink. For industrial use only.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- 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.
- Other information : Provide appropriate exhaust ventilation at places of dust forming. Ensure adequate air ventilation. Degree of ventilation must be adapted to the conditions. Where appropriate, use process chambers, local exhaust systems or other structural measures to control airborne concentrations to keep them below recommended exposure limits. If no exposure limits have been set, keep concentrations in the air at an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL (occupational exposure limit), suitable respiratory protection must be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Powder.
- Colour : colorless, appearance white
- Odour : odourless
- Odour threshold : No data available
- pH : No data available
- pH solution : No data available
- Relative evaporation rate (butylacetate=1) : Not applicable
- Melting point : No data available
- Freezing point : Not applicable
- Boiling point : No data available
- Flash point : Not applicable
- Auto-ignition temperature : Not applicable.
- Decomposition temperature : No data available
- Flammability (solid, gas) : Could burn but do not ignite readily
- Vapour pressure : Not applicable
- Relative vapour density at 20°C : Not applicable
- Relative density : Not specifically applicable
- Relative gas density : Not specifically applicable
- Solubility : No data available
- Partition coefficient n-octanol/water (Log Pow) : No data available
- Viscosity, kinematic : Not applicable
- Viscosity, dynamic : Not applicable
- Explosive limits : No data available

9.2. Other information

- VOC content : < 0.1 %
- Dust explosion category : St 1 - Weak explosion

Additional information

: Vicat softening temperature 50 - 63 °C DIN EN ISO 306

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids. Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

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)
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

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)

12.2. Persistence and degradability

Mowital® B (68648-78-2 or 63148-65-2)

Persistence and degradability	No data is available on the degradability of this product.
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sodium chloride (7647-14-5)

Persistence and degradability	Not applicable.
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12.3. Bioaccumulative potential

Mowital® B (68648-78-2 or 63148-65-2)

Bioaccumulative potential	No data 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))
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sodium chloride (7647-14-5)

Ecology - soil	Expected to be highly mobile in soil.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Ozone : Not classified
 Other adverse effects : No other adverse effects on the environment (e.g. ozone depletion, photochemical ozone formation potential, global warming potential) are expected from this constituent.

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

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. National regulations

This product doesn't contain any substances that is controlled or prohibited for use according to the Regulation on Ozone Depleting Substances published in the Official Journal numbered 30031 on April 7, 2017.

VOC content : < 0.1 %

Mowital® B is not subject to Regulation on Persistent Organic Pollutants (O.G. 14.11.2018-30595)

SECTION 16: Other information

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

Abbreviations and acronyms

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

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

Additional information : A safety data sheet is not required for this product. This Product Safety Information Sheet has been created on a voluntary basis

Full text of H- and EUH-statements

Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.

KFT SDS TR 01 - Version 23.1

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.