Mowital® SB

Safety Data Sheet

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200
Issue date: 5/25/2023 Revision date: 5/25/2023 Version: 2.00

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Trade name	:	Mowital® SB
Chemical name	:	Polyvinyl butyral
CAS-No.	:	68648-78-2 or 63148-65-2
Product Code	:	200004
Synonyms	:	SB 60 HH, SB 70 HH

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Industrial use Additives Binding agent Coating Temporary binder for ceramics Adhesives 3D printing Printing ink

1.3. Supplier

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

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Distributor
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3700 Bay Area Blvd., Suite 680
Houston, TX 77058
USA
Telephone: 1-800-423-9762 (within USA)
Telephone: +1-281-283-1711 (international)
E-Mail: info@kurarayamerica.com

1.4. Emergency telephone number

Emergency number	:	(US)+1 760 476 3962 (US)+1 866 519 4752 (Access code: 334674)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Combustible Dust — May form combustible dust concentrations in air

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Signal word (GHS US) : Warning
Hazard statements (GHS US) : May form combustible dust concentrations in air
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames. - No smoking.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, ventilating, lighting equipment.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

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	%	GHS US classification
Polyvinyl butyral	CAS-No.: 68648-78-2 or 63148-65-2	> 97,5 %	Comb. Dust
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
sodium chloride (Impurity)	CAS-No.: 7647-14-5	< 0,05 %	Not classified

Full text of hazard classes and 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/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Effects on humans : Dust may irritate the respiratory tract, skin and eyes
Most Important Symptoms/Effects : Direct contact with eyes may cause temporary irritation. Dust may irritate throat and respiratory system and cause coughing.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

Fire hazard : The product is not flammable. 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.
Reactivity in case of fire : Direct contact with eyes may case temporary irritation. Dust may irritate throat and respiratory system and cause coughing.
Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon monoxide. Carbon dioxide.

5.3. Special protective equipment and precautions 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Measures in case of dust release : Avoid inhalation of dust and contact with skin and eyes.

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 sub-soil penetration. Environmental manager must be informed of all releases.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Avoid dust formation. Dust can be vacuumed with a vacuum cleaner containing a HEPA (High Efficiency Particulate Air) 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 : Ensure good ventilation of the work station. Wear personal protective equipment. 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.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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

USA - OSHA - Occupational Exposure Limits

Local name	Total Dust (Inert or Nuisance Dust)
OSHA PEL TWA [1]	15 mg/m³
OSHA PEL TWA [2]	50 mppcf
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

water (7732-18-5)

No additional information available

butyraldehyde (123-72-8)

No additional information available

sodium chloride (7647-14-5)

No additional information available

8.2. Appropriate engineering controls

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

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

In case of repeated or prolonged contact wear gloves. Nitrile rubber. ISO 374-1. EN ISO 13982. 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

Eye protection:
Wear closed safety glasses. ISO 16321-1

Skin and body protection:
Wear suitable protective clothing. EN ISO 13688. EN 13034

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder.
Color	:	Colorless, appearance white.
Odor	:	odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Relative evaporation rate (butyl acetate=1)	:	Not applicable
Flammability (solid, gas)	:	No data available
Vapor pressure	:	Not applicable
Relative vapor density at 20°C	:	Not applicable
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	Not applicable
Viscosity, dynamic	:	Not applicable
Explosion limits	:	No data available
Explosive properties	:	Product is not explosive.
Oxidizing properties	:	Non oxidizing material.

9.2. Other information

VOC content	:	< 2.5 %
Dust Explosion Class	:	St 1 - Weak explosion
Other properties	:	Vicat softening temperature 55 - 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 oxidizing agent. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. 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)

water (7732-18-5)	
LD50 oral rat	> 5000 mg/kg body weight
LD50 dermal rat	> 5000 mg/kg body weight

butyraldehyde (123-72-8)	
LD50 oral rat	≈ 5890 mg/kg body weight (OECD 401 method)
LC50 Inhalation - Rat (Vapours)	> 5.46 mg/l/4h (OECD 403 method)

sodium chloride (7647-14-5)	
LD50 oral rat	3550 mg/kg body weight (male)
LD50 dermal rat	> 10000 mg/kg body weight

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 sensitization : 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
Viscosity, kinematic : Not applicable
Effects on humans : Dust may irritate the respiratory tract, skin and eyes
Most Important Symptoms/Effects : Direct contact with eyes may cause temporary irritation. Dust may irritate throat and respiratory system and cause coughing.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

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))

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	252 mg/l (33 d; Pimephales promelas;(OECD 210 method))
NOEC chronic crustacea	314 mg/l (21 d; Daphnia pulex; (OECD 211 method))

12.2. Persistence and degradability

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

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

12.4. Mobility in soil

butyraldehyde (123-72-8)	
Surface tension	70 mN/m (20 °C; 1 g/L; (OECD 115 method))

sodium chloride (7647-14-5)	
Ecology - soil	Expected to be highly mobile in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Disposal must be done according to official regulations. Do not dispose of with domestic waste. Do not discharge into drains or the environment.

Product/Packaging disposal recommendations : Recycle or dispose of in compliance with current legislation.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

14.6. Special precautions for user

DOT
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

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

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

Listed on the Canadian DSL (Domestic Substances List)
Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)

sodium chloride (7647-14-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Polyvinyl butyral (68648-78-2 or 63148-65-2)
Not listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

Polyvinyl butyral (68648-78-2 or 63148-65-2)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing New Chemical Substances) inventory Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory)

water (7732-18-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

sodium chloride (7647-14-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other information

according to US OSHA Hazard Communication Standard (HCS 2012); 29 CFR Part 1910.1200

Revision date : 5/25/2023

Data sources : Information provided by the manufacturer.

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Other information : We hereby confirm that for Mowital® grades the Country of Origin is Germany. Version/s 1.00 - 5.00 is/are not available in this language.

Full text of H-phrases	
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation

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

KFT SDS US 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.