

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Trade name	: Mowital® B
Chemical name	: polyvinyl butyral
CAS-No.	: 68648-78-2 or 63148-65-2
SDSNumber	: 200002
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

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Temporary binder for ceramics; Coating; Adhesives; 3D printing; Additive/binder for primer, Printing ink
Recommended use	: For industrial use only
Restrictions on use	: Unknown

1.3. Supplier

Distributor

Kuraray America, Inc.
3700 Bay Area Blvd,
Suite 680 Houston,
TX 77058-1160 US
Phone: 1-800-423-9762 (within USA), +1-281-283-1711 (International)
E-Mail: info@kurarayamerica.com

E-Mail competent person: product-safety@kuraray.com

1.4. Emergency telephone number

Emergency number : +1 760 476 3962 or +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 and other ignition sources. 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

Other hazards which do not result in classification : Fine particles can form explosive mixtures with air. Avoid creating or spreading dust. Difficult to ignite. Possible precautions against a dust explosion recommended.

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2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

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

Name	Product identifier	%	GHS US classification
Polyvinyl butyral	CAS-No.: 68648-78-2; 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 Acute Tox. 4 (Dermal), H312
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 : If you feel unwell, seek medical advice.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a doctor if symptoms occur or persist.
First-aid measures after skin contact : IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse eyes with water as a precaution. Do not rub the eye. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion : Rinse mouth thoroughly with water. If the quantity swallowed is significant : Call a physician immediately or Poison centre.

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

Effects on humans : Dust can irritate the respiratory tract, skin and eyes
Potential Adverse human health effects and symptoms : Existing skin and respiratory conditions, including skin inflammation, asthma and chronic lung disease may be exacerbated by exposure.
Symptoms/effects : Irritation of the respiratory tract, skin, eyes and mucous membranes possible.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water fog. Water spray. Dry powder. Foam. Carbon dioxide (CO₂). When using the extinguishing agent, make sure no dust is formed in the air.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

- 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.
- Reactivity in case of fire : Avoid formation of dust. Risk of dust explosion if enriched with fine dust in the presence of air.
- Hazardous decomposition products in case of fire : In the event of fire, harmful gases may be produced.

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use ordinary fire-fighting measures, taking into account the hazards from other materials involved. Move containers away from the fire area if this can be done without risk.
- 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. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- 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 release to the environment. Environmental officer 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 : Dispose of waste according to applicable legislation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". See Section 13 for disposal information.

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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 a well-ventilated place. Keep cool. Store in the original container well sealed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Mowital® B (68648-78-2 or 63148-65-2)	
USA - OSHA - Occupational Exposure Limits	
Local name	Total Dust (Inert or Nuisance Dust)
OSHA PEL TWA	15 mg/m ³
	50 mppcf
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Monitoring methods	
Monitoring methods	Follow standard monitoring procedures.

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:				
The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard ISO 374-1. In case of repeated or prolonged contact wear gloves. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Use gloves only once				
Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.12	
Eye protection:				
In case of dust production: protective goggles. ISO 16321-1				
Skin and body protection:				
Wear suitable protective clothing				

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. In case of dust: Wear dust mask with filter type P2.

Personal protective equipment symbol(s):



Thermal hazard protection:

Heatproof clothing.

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	: Powders.
Color	: Colorless, Appearance white
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Could burn but do not ignite readily.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
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	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Lower explosion limit: No data available Upper explosion limit: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Dust explosion category	: St 1 - Weak explosion

9.2. Other information

VOC content	: < 0.1 %
Additional information	: Vicat softening temperature 50 - 63 °C DIN EN ISO 306

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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
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Butyraldehyde (123-72-8)	
LD50 oral rat	≈ 5890 mg/kg body weight Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	1046 mg/kg
LC50 Inhalation - Rat	> 5.46 mg/l air Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Sodium chloride (7647-14-5)	
LD50 oral rat	3000 mg/kg Source: ChemIDplus
LD50 dermal rabbit	> 10000 mg/kg body weight
LC50 Inhalation - Rat (Dust/Mist)	> 10.5 mg/l Source: Corporate Solution From Thomson Micromedex

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Effects on humans : Dust can irritate the respiratory tract, skin and eyes
Potential Adverse human health effects and symptoms : Existing skin and respiratory conditions, including skin inflammation, asthma and chronic lung disease may be exacerbated by exposure.

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

SECTION 12: Ecological information

12.1. Toxicity

Butyraldehyde (123-72-8)	
LC50 - Fish	25.8 mg/l Test organisms (species): Pimephales promelas
Sodium chloride (7647-14-5)	
LC50 - Fish	5840 mg/l Test organisms (species): Lepomis macrochirus
LOEC (chronic)	441 mg/l Test organisms (species): Daphnia pulex Duration: '21 d'
NOEC (chronic)	314 mg/l Test organisms (species): Daphnia pulex Duration: '21 d'

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.
Water (7732-18-5)	
Persistence and degradability	No data available.
Butyraldehyde (123-72-8)	
Persistence and degradability	No data available.
Sodium chloride (7647-14-5)	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

Mowital® B (68648-78-2 or 63148-65-2)	
Bioaccumulative potential	No data available.
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38
Butyraldehyde (123-72-8)	
Partition coefficient n-octanol/water (Log Pow)	0.88

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

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. Disposal methods

Regional waste regulation : Disposal must be done according to official regulations.

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Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : Not applicable
UN-No. (TDG) : Not applicable
UN-No. (IMDG) : Not applicable
UN-No. (IATA) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable
Proper Shipping Name (TDG) : Not applicable
Proper Shipping Name (IMDG) : Not regulated for transport
Proper Shipping Name (IATA) : Not regulated for transport

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT
Not applicable

TDG
Not applicable

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. 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

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Butyraldehyde	CAS-No. 123-72-8	< 0.05%
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15.2. International regulations

CANADA

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

Listed on the Canadian DSL (Domestic Substances List)

Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

Butyraldehyde (123-72-8)

Listed on the Canadian DSL (Domestic Substances List)

Sodium chloride (7647-14-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

No additional information available

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

Component	State or local regulations
Butyraldehyde(123-72-8)	U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date : 2/16/2024

Data sources : Supplier's safety documents. Source: European Chemicals Agency, <http://echa.europa.eu/>.

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Full text of H-phrases	
H225	Highly flammable liquid and vapor
H312	Harmful in contact with skin

Safety Data Sheet (SDS), USA

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