

### 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  
USA  
Telephone: +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.

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### 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.

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water fog. Water spray. Dry powder. Foam. Carbon dioxide (CO<sub>2</sub>). 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 : 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 : 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.

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### 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

<b>Mowital® B (68648-78-2 or 63148-65-2)</b>	
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Total Dust (Inert or Nuisance Dust)
OSHA PEL TWA [1]	15 mg/m <sup>3</sup>
OSHA PEL TWA	50 mppcf
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
<b>Polyvinyl butyral (68648-78-2; 63148-65-2)</b>	
No additional information available	
<b>Water (7732-18-5)</b>	
No additional information available	
<b>Butyraldehyde (123-72-8)</b>	
No additional information available	
<b>Sodium chloride (7647-14-5)</b>	
No additional information available	
<b>Monitoring methods</b>	
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.

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Wear protective gloves. nitrile rubber gloves. The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard ISO 374-1. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer. Use gloves only once

#### Eye protection:

Wear closed safety glasses. ISO 16321-1

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. In case of dust: Wear dust mask with filter type P2. EN 143

#### 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)	: No data available
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

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

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	: < 2.5 %
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, CO<sub>2</sub>).

## 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

<b>Butyraldehyde (123-72-8)</b>	
LD50 oral rat	≈ 5890 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), Remarks on results: other:
LD50 dermal rabbit	1046 mg/kg
LC50 Inhalation - Rat	> 5.46 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
ATE US (dermal)	1046 mg/kg body weight
<b>Sodium chloride (7647-14-5)</b>	
LD50 oral rat	3000 mg/kg Source: ChemIDplus
LD50 dermal rabbit	> 10000 mg/kg body weight Animal: rabbit
LC50 Inhalation - Rat (Dust/Mist)	> 10.5 mg/l Source: Corporate Solution From Thomson Micromedex

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

Sodium chloride (7647-14-5)	
ATE US (oral)	3000 mg/kg body weight
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.
Symptoms/effects	: Irritation of the respiratory tract, skin, eyes and mucous membranes possible.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : No known adverse effects on the functioning of water treatment plants under normal use conditions as recommended.

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.

### 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

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### 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 legislation (waste) : Disposal must be done according to official regulations.  
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**  
No data available



# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### TDG

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

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

##### 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

##### Water (7732-18-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

##### Butyraldehyde (123-72-8)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

# Mowital® B

## Safety Data Sheet

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

### 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

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

OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012)

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

### 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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