

SECTION 1: Identification of Compounds (Single or mixture)

1.1. Product identifier

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

1.2. Other means of identification

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

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Industrial use,
Temporary binder for ceramics,
Adhesives,
Coating,
3d printing,
Printing inks

1.4. Supplier's details

Manufacturer/Supplier

Kuraray Europe GmbH
Philipp-Reis-Str. 4 Hattersheim am Main 65795 Germany
T +49 (0)69 305 85300
product-safety@kuraray.com

Email competent person

product-safety@kuraray.com

Importer

Kuraray Asia Pacific Pte. Ltd.
250 North Bridge Road #10-01/02 Raffles City Tower 179101 Singapore
T +65-6337-4123

1.5. Emergency telephone number

Emergency number : +001 803 015 203 9774 (Access Code: 334674)

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Not classified

2.2. Label elements

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on Constituent Materials of the Compound

3.1. Substances

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

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Name	Product identifier	%	GHS ID classification
polyvinyl butyral (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
sodium chloride (Impurity)	CAS-No.: 7647-14-5	< 0.05	Not classified

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.
Inhalation	: Remove person to fresh air and keep comfortable for breathing.
Skin contact	: Wash skin with plenty of water.
Eyes contact	: Rinse eyes with water as a precaution.
Ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

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

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Firefighting Measures

5.1. Suitable extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire. Water haze. 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

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

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.
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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.

SECTION 6: Measures in Case of Spills and Leaks

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 personnel

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 : 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.

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. 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.

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

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

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Exposure limit values for the other components

No additional information available

8.2. Monitoring

Follow standard monitoring procedures.

8.3. Appropriate engineering controls

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

8.4. Individual protection measures, such as personal protective equipment

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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical state : Solid
Appearance : Powder.
Colour : colourless
Odour : odourless
Odour threshold : No additional information available
pH : No additional information available
Relative evaporation rate (butylacetate=1) : Not applicable
Melting point : No additional information available
Freezing point : Not applicable
Boiling point : No additional information available
Flash point : Not applicable
Auto-ignition temperature : Not applicable.
Decomposition temperature : No additional information available
Flammability : No additional information available
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 additional information available
Partition coefficient n-octanol/water (Log Pow) : No additional information available
Viscosity, kinematic : Not applicable
Viscosity, dynamic : Not applicable
Explosive properties : Product is not explosive.
Oxidising properties : Non oxidizing.
Percent Solids : No additional information available
Evaporation rate : No additional information available
Explosive limits : No additional information available
VOC content : < 2,5 %

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

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

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 data 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))

sodium chloride (7647-14-5)

Partition coefficient n-octanol/water (Log Pow)	-3
Ecology - soil	Not applicable.

12.5. Other adverse effects

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

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: Waste Disposal

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

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (UN RTDG) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

UN RTDG

Transport hazard class(es) (UN RTDG) : Not applicable

IMDG

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

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IATA

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

14.4. Packing group, if applicable

Packing group (UN RTDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : 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

SECTION 15: Regulatory Information

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

No additional information available

15.2. International agreements

No additional information available

15.3 Chemical inventory status

Australia AICS	Yes
Canada DSL	Yes
Canada NDSL	No
China IECSC	Yes
EU EINECS	European Union EINECS X Monomers listed; polymer exempted
EU NLP	European Union EINECS X Monomers listed; polymer exempted
Korea ECL	Yes, Serial No.: KE 29059, listed under CAS number 63148-65-2
US TSCA Active	Yes
US TSCA Inactive	No

SECTION 16: Other Information

Issue date : 3/6/2023
Revision date : 3/6/2023
Data sources : Information provided by the manufacturer.
Department issuing data specification sheet: : KFT Chemieservice GmbH
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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 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 ID 01_NEW

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.