

## SECTION 1 Chemical product and company identification

Chemical Chinese name	: 聚乙烯醇缩丁醛
Chemical English 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 of company	: Kuraray Europe GmbH
Title	: Manufacturer/Supplier
Address	: Germany Hattersheim am Main Philipp-Reis-Str. 4
Zip code	: 65795
Technical contact	: +49-69-305-13345
Email competent person	: product-safety@kuraray.com
Distributor	: Kuraray (Shanghai) Co., Ltd.
Address	: China Shanghai 200030 Xuhui District Address Unit 2207 2 Grand Gateway, 3 Hongqiao Road
Tel.	: +86-21-6119-8111
Emergency	: Emergency Telephone: +86-532-83889090 (24h NRCC hazardous Substances) and others 3E +86 4001 2001 74 (Access Code: 334674)
Recommended use of the chemical	: Industrial use temporary binder for ceramics adhesives Coating 3d printing printing inks
Restricted use of the chemical	: No additional information available

## SECTION 2 Hazards identification

### Emergency overview

Powder; Odorless; The product is non-reactive under normal conditions of use, storage and transport; No dangerous decomposition products should be formed under normal conditions of storage and use; No dangerous reactions are known under normal conditions of use; The product is not explosive; Not oxidising; Treat symptomatically

### GHS hazard classification

Not classified

### Label elements

No data available

### Physical and chemical hazards

No additional information available

### Health hazards

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

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Most Important Symptoms/Effects : No dangerous reactions known under normal conditions of use

### Environmental hazards

No additional information available

### Other hazards

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.

## SECTION 3 Composition/information on ingredients

Product form : Substance.

Ingredient(s)	Concentration or concentration ranges (w/w %)	CAS No.	Classification (GHS CN)
Polyvinylbutyral (Main constituent)	> 97.5	68648-78-2 or 63148-65-2	Not classified
water (Impurity)	< 2.4	7732-18-5	Not classified
butyraldehyde (Impurity)	< 0.05	123-72-8	Flammable liquids, Category 2 Serious eye damage/eye irritation, Category 2 Hazardous to the aquatic environment – Acute hazard, Category 3
sodium chloride (Impurity)	< 0.05	7647-14-5	Acute toxicity (Oral), Category 5

## SECTION 4 First-aid measures

### Description of necessary 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 : Rinse mouth thoroughly with water. Call a poison center or a doctor if you feel unwell

### Most important symptoms/effects

- Most Important Symptoms/Effects : No dangerous reactions known under normal conditions of use
- Symptoms/effects : Irritation of the respiratory tract, skin, eyes and mucous membranes possible.  
Dust may cause irritation.

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## Advices for first aid responders

No additional information available

## Notes for the doctor

Other medical advice or treatment : Treat symptomatically

## SECTION 5 Fire-fighting measures

### Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire  
Water spray  
Dry powder  
Foam

Unsuitable extinguishing media : Strong water jet

### Specific hazards

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

### Advice for firefighters and protective measures

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

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

### Personal precautions, protective equipment and emergency procedures

General measures : Avoid contact with skin, eyes and clothing

Personal Precautions, Protective Equipment and Emergency Procedures : Concerning personal protective equipment to use, see section 8

### For non-emergency personnel

Emergency procedures : Ventilate spillage area

### 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"

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## Environmental precautions

Avoid release to the environment. Avoid sub-oil penetration

Environmental manager must be informed of all releases.

## Methods and material for containment and cleaning up

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

For containment : Sweep and shovel into appropriate containers for disposal.

## Prevention measures for secondary accidents

Prevention Measures for Secondary Accidents : If a serious spill cannot be contained, the local authority should be notified.

Other information : Disposal must be done according to official regulations

# SECTION 7 Handling and storage

## 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.

Minimize dust generation/release and accumulation.

Ensure good ventilation of the work station

Wear personal protective equipment

Hygiene measures : Do not eat, drink or smoke when using this product.  
Always wash hands after handling the product

Technical measures : Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Local and general ventilation : No additional information available

## Storage

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

Material used in packaging/containers : No additional information available

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

# SECTION 8 Exposure controls / Personal protection equipment

## Occupational exposure limits

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butyraldehyde (123-72-8)	
China - Occupational Exposure Limits	
Local name	正丁醛 # n-Butylaldehyde
OEL PC-TWA	5 mg/m³
OEL PC-STEL	10 mg/m³
Regulatory reference	GBZ 2.1-2019

**Biological limit values**

No additional information available

**Monitoring methods**

No additional information available

**Appropriate engineering controls**

Ensure good ventilation of the work station

**Personal protective equipment**

Environmental exposure controls

: Avoid release to the environment.

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

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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.
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## SECTION 9 Physical and chemical properties

Physical state	: Solid
Appearance	: Powder
Colour	: colorless, appearance white
Odour	: odourless
pH	: No data available
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available
Vapour pressure	: Not applicable
Relative vapour density at 20°C	: Not applicable
Relative density	: Not specifically applicable
Density	: No data available
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
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Radioactive	: No
VOC content	: < 0.1 %
Explosive properties	: Product is not explosive
Oxidising properties	: Non oxidizing
Additional information	: Vicat softening temperature 50 - 63 °C DIN EN ISO 306
Dust explosion category	: St 1 - Weak explosion

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## SECTION 10 Stability and reactivity

<b>Chemical stability</b>	: Stable under normal conditions
<b>Reactivity</b>	: The product is non-reactive under normal conditions of use, storage and transport
<b>Possibility of hazardous reactions</b>	: No dangerous reactions known under normal conditions of use
<b>Conditions to avoid</b>	: None under recommended storage and handling conditions (see section 7).
<b>Incompatible materials</b>	: Strong acids. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	: Carbon oxides (CO,CO2).
<b>Other properties</b>	: No additional information available

## SECTION 11 Toxicological information

<b>Acute toxicity</b>	
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)
<b>Skin corrosion/irritation</b>	
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
<b>Serious eye damage/eye irritation</b>	
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
<b>Respiratory or skin sensitisation</b>	
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
<b>Germ cell mutagenicity</b>	
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
<b>Carcinogenicity</b>	
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
<b>Reproductive toxicity</b>	
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
<b>STOT - single exposure</b>	
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
<b>STOT - repeated exposure</b>	
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
<b>Aspiration hazard</b>	
Aspiration hazard	: No data available (Not applicable)

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## SECTION 12 Ecological information

### 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)

### Persistence and degradability

Mowital® B (68648-78-2 or 63148-65-2)	
Persistence and degradability	No data available

### Bioaccumulative potential

Mowital® B (68648-78-2 or 63148-65-2)	
Bioconcentration factor (BCF REACH)	No data available

### Mobility in soil

Mowital® B (68648-78-2 or 63148-65-2)	
Surface tension	No data available

### Other adverse effects

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

**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.

**Contaminated container and packaging** : No additional information available

**Additional information** : No additional information available

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

## SECTION 14 Transport information

In accordance with JT/T 617 / IMDG / IATA



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Overland transport (JT/T 617)	Transport by sea	Air transport
UN number		
Not applicable	Not applicable	Not applicable
Proper shipping name		
Not applicable	Not applicable	Not applicable
Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
Packing group		
Not applicable	Not applicable	Not applicable
Environmental hazards		
Not applicable	Not applicable	Not applicable
No supplementary information available		

Special transport precautions

Overland transport (JT/T 617)  
Not applicable  
Transport by sea  
Not applicable  
Air transport  
Not applicable

## SECTION 15 Regulatory information

New Chemical Substance Environmental Management Registration Measures (MEE Order 12 of 2020)

Inventory of Existing Chemical Substances : Contains listed substance(s)  
in China (IECSC)  
Acetic acid ethenyl ester, polymer with ethenol, cyclic acetal with butanal  
(CAS-No. 68648-78-2)  
Water (CAS-No. 7732-18-5)  
n-Butylaldehyde (CAS-No. 123-72-8)  
Sodium chloride (CAS-No. 7647-14-5)

Regulations on the Safe Management of Hazardous Chemicals (Decree 591 of the State Council)

Catalogue of Hazardous Chemicals (2015) : Contains Hazardous Chemical(s)  
n-Butylaldehyde (CAS-No. 123-72-8)

Law of the People's Republic of China on the Prevention and Control of Occupational Diseases

Catalogue for Classification of Hazardous : Contains listed substance(s)  
Factors of Occupational Diseases  
n-Butylaldehyde (CAS-No. 123-72-8)

Other domestic regulatory lists

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**Dangerous Goods List (GB 12268-2012)** : Contains listed substance(s)  
n-Butyraldehyde (CAS-No. 123-72-8)

## SECTION 16 Other information

**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

### 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

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### Abbreviations and acronyms

STP	Sewage treatment plant
TLM	Median Tolerance Limit
vPvB	Very Persistent and Very Bioaccumulative

### Other information

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

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