

## SECTION 1 Chemical product and company identification

Chemical Chinese name	: 聚乙烯醇缩丁醛
<b>Chemical English name</b>	: Polyvinyl butyral
<b>Synonyms</b>	: SB 60 HH, SB 70 HH
Article number	: 200004
<b>Name of company</b>	: Kuraray (Shanghai) Co., Ltd.
Title	: Distributor
Address	: China Shanghai 200030 Xuhui District Address Unit 2207 2 Grand Gateway, 3 Hongqiao Road
Tel.	: +86-21-6119-8111
E-mail	: <a href="https://www.kuraray.co.jp/inquiry">https://www.kuraray.co.jp/inquiry</a>
Emergency number	: Emergency Telephone: +86-532-83889090 (24h NRCC hazardous Substances) and others 3E +86 4001 2001 74 (Access Code: 334674)
Email competent person	: product-safety@kuraray.com
Manufacturer	: Kuraray Europe GmbH
Address	: Germany Hattersheim am Main Philipp-Reis-Str. 4
Zip code	: 65795
Tel.	: +49 (0)69 305 85300
Technical contact	: +49-69-305-13345
E-mail	: <a href="mailto:product-safety@kuraray.com">product-safety@kuraray.com</a>
<b>Recommended use of the chemical</b>	: Industrial use Temporary binder for ceramics; Coating; Adhesives; 3D printing; Additive/binder for primer; Printing ink
<b>Restricted use of the chemical</b>	: No additional information available

## SECTION 2 Hazards identification

### Emergency overview

Powder. colorless, appearance white. odourless. The product is non-reactive under normal conditions of use, storage and transport. Under normal conditions of storage and use, hazardous decomposition products should not be produced. No dangerous reactions known under normal conditions of use. Product is not explosive. Non oxidizing. Treat symptomatically

### GHS hazard classification

Not classified

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### Label elements

Not classified

### Physical and chemical hazards

No additional information available

### Health hazards

Symptoms/effects : 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.

### 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)
Polyvinyl butyral	> 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

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## Most important symptoms/effects

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

## 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 : 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 monoxide, Carbon dioxide
- Reactivity in case of fire : Direct contact with eyes may cause temporary irritation. Dust may irritate throat and respiratory system and cause coughing

### Advice for firefighters and protective measures

- Firefighting instructions : No additional information available
- 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 inhalation of dust and contact with skin and eyes
- 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

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For further information refer to section 8: "Exposure controls/personal protection"

## Environmental precautions

Avoid sub-soil penetration. Avoid release to the environment.  
Environmental manager must be informed of all releases.

## Methods and material for containment and cleaning up

Methods for cleaning : Collect dust using a vacuum cleaner equipped with HEPA filter. Do not use compressed air for cleaning.

For containment : No additional information available

## Prevention measures for secondary accidents

Prevention Measures for Secondary Accidents : No additional information available

Other information : Disposal must be done according to official regulations

## SECTION 7 Handling and storage

### 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

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 a well-ventilated place.  
Keep cool.  
Keep container tightly closed. Store in original tightly closed container.

Technical measures : No additional information available

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

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## SECTION 8 Exposure controls / Personal protection equipment

### Occupational exposure limits

butyraldehyde (123-72-8)	
<b>China - Occupational Exposure Limits</b>	
Local name	正丁醛 # n-Butylaldehyde
OEL PC-TWA	5 mg/m <sup>3</sup>
OEL PC-STEL	10 mg/m <sup>3</sup>
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  
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

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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.

## 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** : Not applicable

**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 applicable

**Density** : No data available

**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** : < 2.5 %

**Explosive properties** : Product is not explosive

**Oxidising properties** : Non oxidizing

**Additional information** : vicat softening temperature 55 - 63°C DIN EN ISO 306

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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>	: No additional information available
<b>Incompatible materials</b>	: Strong oxidizing agent Strong acids
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced
<b>Other properties</b>	: No additional information available

## SECTION 11 Toxicological information

### 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

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
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### Serious eye damage/eye irritation

Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
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### Respiratory or skin sensitisation

Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
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### Germ cell mutagenicity

Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
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### Carcinogenicity

Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
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### Reproductive toxicity

Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
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### STOT - single exposure

STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
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### STOT - repeated exposure

STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
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### Aspiration hazard

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

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

### 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

### Mobility in soil

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	Expected to be highly mobile in soil.

### 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.



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## 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

Overland transport (JT/T 617)	Transport by sea	Air transport
<b>UN number</b>		
Not regulated for transport	Not regulated for transport	Not regulated for transport
<b>Proper shipping name</b>		
Not applicable	Not applicable	Not applicable
<b>Transport document description</b>		
Not applicable	Not applicable	Not applicable
<b>Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>Environmental hazards</b>		
Not applicable	Not applicable	Not applicable

### Special transport precautions

Overland transport (JT/T 617)

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

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## SECTION 15 Regulatory information

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

**Inventory of Existing Chemical Substances in China (IECSC)** : Contains listed substance(s)  
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 Factors of Occupational Diseases** : Contains listed substance(s)  
n-Butylaldehyde (CAS-No. 123-72-8)

### Other domestic regulatory lists

**Dangerous Goods List (GB 12268-2012)** : Contains listed substance(s)  
n-Butylaldehyde (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  
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### 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

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### Abbreviations and acronyms

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 CN 01

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