



1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name BONDAN ST29 – Component A

1.2 Relevant identified uses of the substance or mixture and uses advised against

General use Adhesive.

1.3 Details of the supplier of the safety data sheet

Drei Bond GmbH · Carl-Zeiss-Ring 13 · 85737 Ismaning
t +49 (0)89 96 24 27-0 · f +49 (0)89 96 24 27-19
Department responsible for information: info@bondan.de · t +49 89 962427-0

1.4 Emergency telephone number

Drei Bond GmbH	Tel. +49 (0)89 96 24 27-0
Carl-Zeiss-Ring 13	During office hours
85737 Ismaning	Mo – Do 9:00 am – 05:00 pm
	Fr 8:00 am – 3:00 pm

2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to EC regulation 1272/2008 (CLP)

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317
Environmental hazards	Aquatic Chronic 2 - H411

2.2 Label elements

Labelling CLP:



Signal word

Warning

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352a	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Special labelling

EUH205	Contains epoxy constituents. May produce an allergic reaction.
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Contains: EPOXY RESIN (Number average MW <= 700), (1-METHYL-1,2-ETHANEDIYL) bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE

Supplementary precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

2.3 Other hazards

None under normal conditions. This substance is not classified as PBT or vPvB according to current EU criteria.

3 Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients

Ingredient	Designation	Content	Classification
CAS number: 1675-54-3 EC number: 216-823-5 REACH registration number: 01-2119456619-26-XXXX	EPOXY RESIN (Number average MW <= 700)	60 - 100 %	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411
CAS number: 42978-66-5 EC number: 256-032-2 REACH registration number: 01-2119484613-34-XXXX	(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE	1 - 5 %	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 STOT SE 3 - H335 Aquatic Chronic 2 - H411
CAS number: 2530-83-8 EC number: 219-784-2 REACH registration number: 01-2119513212-58-XXXX	[3-(2,3-EPOXYPROPOXY)PROPYL]TRIMETHOXYSILANE	< 1 %	Eye Dam. 1 - H318

The full text for all hazard statements is displayed in Section 16.



4 First aid measures

4.1 Description of first aid measures

Inhalation	Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention.
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Remove any contact lenses and open eyelids wide apart. Get medical attention if any discomfort continues.

4.2 Most important symptoms and effects, both acute and delayed

Skin contact	Skin irritation, mild dermatitis, allergic skin rash.
Eye contact	Irritating and may cause redness and pain.

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. Treat symptomatically.
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5 Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.



5.2 Special hazards arising from the substance or mixture

Burning produces irritating, toxic and obnoxious fumes. Nitrous gases (NO_x). Carbon monoxide, carbon dioxide, and unknown hydrocarbons.

5.3 Advice for firefighters

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective clothing as described in Section 8 of this safety data sheet.

6.2 Environmental precautions

Do not discharge into drains or watercourses or onto the ground.

6.3 Methods and material for containment and cleaning up

Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal. Wash area with soap and water.

6.4 Reference to other sections

For personal protection, see Section 8. For waste disposal, see section 13.

7 Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in closed original container at temperatures between 5°C and 25°C.



7.3 Specific end use(s)

adhesive; sealant

8 Exposure controls/personal protection

8.1 Control parameters

EPOXY RESIN (Number average MW <= 700) (CAS: 1675-54-3)

DNEL

Workers - Inhalation; Long term systemic effects: 12.25 mg/m³
Workers - Dermal; Long term systemic effects: 8.33 mg/kg/day
Workers - Inhalation; Short term systemic effects: 12.25 mg/m³
Workers - Dermal; Short term systemic effects: 8.33 mg/kg/day

PNEC

- Fresh water; Long term 0.006 mg/l
- Sediment (Freshwater); Long term 0.996 mg/l
- Sediment (Marinewater); 0.0996 mg/l
- STP; Long term 10 mg/l
- Soil; Long term 0.196 mg/l
- Marine water; 0.0006 mg/l
- Water; 0.0018 mg/l

**(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE
(CAS: 42978-66-5)**

DNEL

Workers - Inhalation; Long term systemic effects: 24,48 mg/m³
Workers - Dermal; Long term systemic effects: 2.77 mg/kg

PNEC

- Fresh water; 0.0073 mg/l
- marine water; 0.0007 mg/l
- STP; 100 mg/l
- Water; 0.73 mg/l
- Soil; 0.00243 mg/kg
- Sediment (Freshwater); 0.19 mg/kg

[3-(2,3-EPOXYPROPOXY)PROPYL]TRIMETHOXYSILANE (CAS: 2530-83-8)

DNEL

Workers - Inhalation; Long term systemic effects: 147 mg/m³

Workers - Dermal; Long term systemic effects: 21 mg/kg/day

PNEC

Fresh water; 1 mg/l

Intermittent release; 1 mg/l

marine water; 0.1 mg/l

STP; 10 mg/l

Sediment (Freshwater); 3.6 mg/kg

Sediment (Marinewater); 0.36 mg/kg

8.2 Exposure controls

Protection equipment



Appropriate engineering controls

Normal (mechanical) room ventilation should be adequate for small volumes. For higher volume activities, or if needed for worker comfort, local mechanical exhaust should be provided.

Eye/face protection

Use approved safety goggles or face shield. Personal eye protection should conform to EN 166.

Hand protection

It is recommended that chemical-resistant, impervious gloves are worn. Gloves should conform to EN 374. For exposure up to 4 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 0.5 hours. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 8 hours. The breakthrough time for any glove material may be different for different



glove manufacturers. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.

Other skin and body protection	Uniforms, coveralls, or a lab coat should be worn.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Wash promptly if skin becomes contaminated. Use of good industrial hygiene practices is required.
Respiratory protection	Ensure adequate ventilation of the working area. Respiratory protection may be required if excessive airborne contamination occurs. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Organic vapour filter, Type A (EN14387).

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	paste
Colour	white or brown
Odour	mild
Odour threshold	not available
pH	not relevant
Melting point	not determined
Initial boiling point and range	not applicable
Flash point	> 100 °C
Evaporation rate	not available
Vapour pressure	not determined
Vapour density	not available
Relative density	1.1

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Version: 1.004



Upper/lower flammability or explosive limits	not available
Solubility(ies)	Insoluble in water. Soluble in the following materials: Organic solvents.
Auto-ignition temperature	not determined
Decomposition Temperature	not available
Viscosity	≈ 65000 mPa·s @ 25°C, thixotropic
Explosive properties	not determined
Oxidising properties	not available

9.2 Other information

Other information not relevant

10 Stability and reactivity

10.1 Reactivity

Under normal conditions of storage and use, no hazardous reactions will occur.

10.2 Chemical stability

Stable at normal ambient temperatures.

10.3 Possibility of hazardous reactions

Reactions with the following materials may generate heat: Amines

10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

strong oxidising agents, strong acids, strong alkalis

10.6 Hazardous decomposition products

Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.



11 Toxicological information

11.1 Information on toxicological effects

Toxicological effects The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Skin sensitisation

Skin sensitization

May cause sensitisation by skin contact.

Aspiration hazard

Aspiration hazard

None under normal conditions.

Inhalation

Unlikely to be hazardous by inhalation because of the low vapour pressure of the product at ambient temperature. In high concentrations, vapours may irritate throat and respiratory system and cause coughing.

Ingestion

No harmful effects expected from quantities likely to be ingested by accident.

Skin contact

Irritating to skin.

Eye contact

Irritating and may cause redness and pain.

Toxicological effects on ingredients

EPOXY RESIN (Number average MW <= 700)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 11,400.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rabbit



Acute toxicity - inhalation

Notes (inhalation LC₅₀)

No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation

not irritating

Animal data

Oedema score: Very slight oedema - barely perceptible (1).

Serious eye damage/irritation

Serious eye damage/irritation

not irritating

Respiratory sensitisation

Respiratory sensitisation

No specific test data are available.

Skin sensitisation

Skin sensitisation

Local Lymph Node Assay (LLNA) - Mouse: Sensitising

Germ cell mutagenicity

Genotoxicity - in vitro

Conclusive data but not sufficient for classification.

Carcinogenicity

Carcinogenicity

Conclusive data but not sufficient for classification.

Reproductive toxicity

Reproductive toxicity - fertility

Fertility - NOAEL 750 mg/kg/day, Oral, Rat

Reproductive toxicity -
development

Developmental toxicity: - NOAEL: 180 mg/kg/day,
Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure

No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure

Conclusive data but not sufficient for classification.

Aspiration hazard

Aspiration hazard

Based on available data the classification criteria are not met.



(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,001.0
Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,001.0
Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) no information available

Skin corrosion/irritation

Animal data Rabbit: Not irritating

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit: Irritating to eyes

Respiratory sensitisation

Respiratory sensitisation no information available

Skin sensitisation

Skin sensitisation Local Lymph Node Assay (LLNA) - Mouse: Sensitising;
Guinea pig maximization test (GPMT) - Guinea pig:
Sensitising

Germ cell mutagenicity

Genotoxicity - in vitro Ames test: Inconclusive

Genotoxicity - in vivo

Gene mutation: Inconclusive

Carcinogenicity

Carcinogenicity no information available

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 250 mg/kg/day, Oral, Rat P

Reproductive toxicity -
Development

Developmental toxicity: - NOAEL: >= 750 mg/kg/day,
Oral, Rat



Specific target organ toxicity - single exposure

Target organs respiratory tract

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 66.66 mg/kg, Dermal, Rat

Aspiration hazard

Aspiration hazard not applicable

[3-(2,3-EPOXYPROPOXY)PROPYL]TRIMETHOXYSILANE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 7,010.0
Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 6,800.0
Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation 5.3
(LC₅₀ dust/mist mg/l)
Species Rat

Skin corrosion/irritation

Animal data Method: OECD 404, Rabbit: Not irritating

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit: Irritating to eyes

Skin sensitisation

Skin sensitisation Buehler test - Guinea pig: Not sensitising

Germ cell mutagenicity

Genotoxicity - in vitro Read-across data. Chromosome aberration: Negative

Genotoxicity - in vivo

Chromosome aberration: Positive

Carcinogenicity

Carcinogenicity NOAEL >=5 mg/kg/day, Dermal, Mouse



Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 500 mg/kg/day, Oral, Rat P

Reproductive toxicity - development Maternal toxicity: - NOAEL: 200 mg/kg/day, Oral, Rabbit

Specific target organ toxicity - single exposure

STOT - single exposure no information available

Specific target organ toxicity - repeated exposure

STOT - repeated exposure no information available

Aspiration hazard

Aspiration hazard no information available

12 Ecological information

Toxic to aquatic life with long lasting effects.

12.1 Toxicity

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Ecological information on ingredients

EPOXY RESIN (Number average MW <= 700)

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 24 hours: 4.4 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic Invertebrates LC₅₀, 24 hours: 4.9 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 48 hours: 9.1 mg/l, Selenastrum capricornutum

Acute toxicity - microorganisms IC₅₀, 3 hours: > 100 mg/l, Activated sludge



Chronic aquatic toxicity

Chronic toxicity - aquatic Invertebrates NOEC, 21 days: 0.3 mg/l, Daphnia magna

(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 4.6 - 10 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic Invertebrates EC₅₀, 48 hours: 89 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: 65.9 mg/l, Desmodismus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: > 1000 mg/l, Activated sludge

[3-(2,3-EPOXYPROPOXY)PROPYL]TRIMETHOXYSILANE

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 55 mg/l, Cyprinus carpio (Common carp)

Acute toxicity - aquatic Invertebrates NOEC, 48 hours: < 250 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOEC, 96 days: 130 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms NOEC, 3 hours: > 100 mg/l, Activated sludge

Chronic aquatic toxicity

Chronic toxicity - aquatic Invertebrates NOEC, 21 days: >= 100 mg/l, Daphnia magna

12.2. Persistence and degradability

The product is not readily biodegradable.

Ecological information on ingredients

EPOXY RESIN (Number average MW <= 700)

Biodegradation Water - 6 - 12%: 28 days



(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE

Biodegradation Water - 48%: 28 days

[3-(2,3-EPOXYPROPOXY)PROPYL]TRIMETHOXYSILANE

Biodegradation Water - 37%: 28 days

12.3 Bioaccumulative potential

Ecological information on ingredients

EPOXY RESIN (Number average MW <= 700)

Bioaccumulative potential BCF: 100 – 3000

Partition coefficient log Pow: 3.242

12.4 Mobility in soil

There is no data available. The product has poor water-solubility.

Ecological information on ingredients

EPOXY RESIN (Number average MW <= 700)

Adsorption/desorption coefficient Water - log Koc: 2.65 @ 20°C

(1-METHYL-1,2-ETHANEDIYL)bis[OXY(METHYL-2,1-ETHANEDIYL)] DIACRYLATE

Henry's law constant 9E-06 Pa m³/mol @ 25°C

12.5 Results of PBT and vPvB assessment

This substance is not classified as PBT or vPvB according to current EU criteria.

12.6 Other adverse effects

none known



13 Disposal considerations

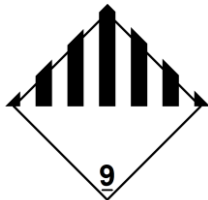
13.1 Waste treatment methods

General information	Waste disposal should be in accordance with existing Community, National and local regulations Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.
Disposal methods	Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
Waste class	08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances.

14 Transport information

Road transport notes	Applies only to inner containers >5 litres. See SP 375.
Sea transport notes	Applies only to inner containers >5 litres. See 2.10.2.7 of the IMDG code.
Air transport notes	Applies only to inner containers >5 litres. See SP A197 (375)
14.1 UN number	3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Epoxy resin)
14.3 Transport hazard class(es)	9

Transport labels



14.4 Packing group

III

14.5 Environmental hazards

Environmentally hazardous substance/marine pollutant:



14.6 Special precautions for user

EmS

F-A, S-F

Tunnel restriction code

(E)

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable



15 Regulatory information

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

National regulations

The Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No. 2677) (as amended).

EU legislation Regulation (EC)

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Guidance

Workplace Exposure Limits EH40.

CHIP for everyone HSG228.

Safety Data Sheets for Substances and Preparations.

Approved Classification and Labelling Guide (Sixth edition) L131.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

16 Other information

Revision date: 10.12.2021 (no changes in English version)

Supersedes date: 23.02.2021

Wording of the hazard statements under paragraph 2 and 3:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H411 Toxic to aquatic life with long lasting effects.



Department issuing data sheet:

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

(The data on the hazardous ingredients were taken from the most recent safety data sheet from the supplier.)