



Safety Data Sheet according to (EC) No 1907/2006

Page 1 of 12

sds no. : 437443
V001.0

Ablebond 8290 (38g),

Revision: 20.11.2012
printing date: 04.12.2012

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Ablebond 8290 (38g),

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

Intended use:

Epoxy adhesive

1.3. Details of the supplier of the safety data sheet

Henkel Limited

2 Bishop Square Business Park

AL109EY Herfordshire Hatfield

Great Britain

Phone: +44 1606 593933

Fax-no.: +44 1606 863762

ua-productsafety.uk@uk.henkel.com

1.4. Emergency telephone number

24 Hours Emergency Tel: +44 (0)1442 278497

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (DPD):

Mutagen category 3.

R68 Possible risk of irreversible effects.

Sensitizing

R43 May cause sensitisation by skin contact.

Xi - Irritant

R36 Irritating to eyes.

Dangerous for the environment

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements (DPD):

Xn - Harmful



Risk phrases:

R36 Irritating to eyes.

R68 Possible risk of irreversible effects.

R43 May cause sensitisation by skin contact.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37 Wear suitable protective clothing and gloves.

Additional labeling:

Contains epoxy constituents. See information supplied by the manufacturer.

Contains:

Bisphenol-F epichlorhydrin resin; MW<700,

Polyglycidyl ester,

2,6-Diglycidyl phenyl allyl ether oligomer

2.3. Other hazards

None if used properly.

SECTION 3: Composition/information on ingredients

General chemical description:

Adhesive

Base substances of preparation:

Epoxy resin

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Silver >= 99,9 % Ag in powder form (< 1 mm) 7440-22-4	231-131-3	>= 50- <= 100 %	Acute hazards to the aquatic environment 1 H400 Chronic hazards to the aquatic environment 1 H410
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	>= 2,5- < 10 %	Skin irritation 2; Dermal H315 Skin sensitizer 1; Dermal H317 Serious eye irritation 2 H319 Chronic hazards to the aquatic environment 2 H411
Polyglycidyl ester 68475-94-5		>= 2,5- < 10 %	Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3; Inhalation H335 Skin sensitizer 1 H317 Chronic hazards to the aquatic environment 2 H411
.gamma.-Butyrolactone 96-48-0	202-509-5 01-2119471839-21	< 5 %	Acute toxicity 4; Oral H302 Serious eye irritation 1 H318 Specific target organ toxicity - single exposure 3 H336
2,6-Diglycidyl phenyl allyl ether oligomer	01-0000016428-66	>= 1- < 10 %	Skin sensitizer 1 H317 Germ cell mutagenicity 2 H341
Poly(oxypropylene)diamine 9046-10-0		< 5 %	Acute toxicity 4; Oral H302 Skin corrosion 1B H314 Chronic hazards to the aquatic environment 3 H412
Copper oxide 1317-38-0	215-269-1	< 10 %	Acute toxicity 4; Oral H302 Skin irritation 2; Dermal H315 Serious eye irritation 2 H319 Specific target organ toxicity - single exposure 3; Inhalation H335
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	219-371-7	>= 0,1- < 1 %	Acute toxicity 4; Inhalation H332 Serious eye irritation 2 H319 Skin sensitizer 1 H317 Acute toxicity 4; Dermal H312 Skin irritation 2 H315

**For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.**

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	content	Classification
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	>= 2,5 - < 10 %	Xi - Irritant; R36/38, R43 N - Dangerous for the environment; R51/53
Silver >= 99,9 % Ag in powder form (< 1 mm) 7440-22-4	231-131-3	>= 50 - <= 100 %	N - Dangerous for the environment; R50/53
Polyglycidyl ester 68475-94-5		>= 2,5 - < 10 %	N - Dangerous for the environment; R51/53 Xi - Irritant; R36/37, R43
.gamma.-Butyrolactone 96-48-0	202-509-5 01-2119471839-21	< 5 %	Xn - Harmful; R22 Xi - Irritant; R41 R67
2,6-Diglycidyl phenyl allyl ether oligomer	01-0000016428-66	>= 1 - < 10 %	Mutagen category 3.; Xn - Harmful; R68 Xi - Irritant; R43
Poly(oxypropylene)diamine 9046-10-0		< 5 %	C - Corrosive; R34 Xn - Harmful; R22 R52/53
Copper oxide 1317-38-0	215-269-1	< 10 %	Xn - Harmful; R22 Xi - Irritant; R36/37/38
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8	219-371-7	>= 0,1 - < 1 %	Xn - Harmful; R20/21 R43 Xi - Irritant; R36/38

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Should not be a problem as product is of low volatility. However, if feeling unwell remove patient to fresh air.

Skin contact:

Rinse with running water and soap.

Obtain medical attention if irritation persists.

Eye contact:

Rinse immediately with plenty of running water (for 10 minutes), seek medical attention from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

4.2. Most important symptoms and effects, both acute and delayed

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media:**

water, carbon dioxide, foam, powder

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

5.2. Special hazards arising from the substance or mixtureIn the event of a fire, carbon monoxide (CO), carbon dioxide (CO₂) and nitrogen oxides (NO_x) can be released.

In case of fire, keep containers cool with water spray.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Additional information:

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin and eyes.

Wear protective equipment.

Ensure adequate ventilation.

Remove sources of ignition.

6.2. Environmental precautions

Do not empty into drains / surface water / ground water.

6.3. Methods and material for containment and cleaning up

For small spills wipe up with paper towel and place in container for disposal.

For large spills absorb onto inert absorbent material and place in sealed container for disposal.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Avoid skin and eye contact.

See advice in chapter 8

Hygiene measures:

Good industrial hygiene practices should be observed.

Wash hands before work breaks and after finishing work.

Do not eat, drink or smoke while working.

7.2. Conditions for safe storage, including any incompatibilities

Ensure good ventilation/extraction.

Keep container tightly sealed.

7.3. Specific end use(s)

Epoxy adhesive

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational Exposure Limits**

Valid for

Great Britain

Ingredient	ppm	mg/m ³	Type	Category	Remarks
SILVER (METALLIC) 7440-22-4		0,1	Time Weighted Average (TWA):		EH40 WEL
SILVER, METALLIC 7440-22-4		0,1	Time Weighted Average (TWA):	Indicative	ECTLV

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
.gamma.-Butyrolactone 96-48-0	aqua (freshwater)					0,056 mg/L	
.gamma.-Butyrolactone 96-48-0	aqua (marine water)					0,0056 mg/L	
.gamma.-Butyrolactone 96-48-0	aqua (intermittent releases)					0,56 mg/L	
.gamma.-Butyrolactone 96-48-0	sediment (freshwater)				0,24 mg/kg		
.gamma.-Butyrolactone 96-48-0	sediment (marine water)				0,02 mg/kg		
.gamma.-Butyrolactone 96-48-0	soil				0,014683 mg/kg		
.gamma.-Butyrolactone 96-48-0	STP					452 mg/L	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
.gamma.-Butyrolactone 96-48-0	worker	inhalation	Long term exposure - systemic effects		130 mg/m3	
.gamma.-Butyrolactone 96-48-0	worker	dermal	Long term exposure - systemic effects		19 mg/kg bw/day	
.gamma.-Butyrolactone 96-48-0	general population	inhalation	Long term exposure - systemic effects		28 mg/m3	
.gamma.-Butyrolactone 96-48-0	general population	dermal	Long term exposure - systemic effects		8 mg/kg bw/day	

Biological Exposure Indices:

None

8.2. Exposure controls:**Engineering controls:**

Ensure good ventilation/extraction.

Respiratory protection:

Ensure adequate ventilation.

An approved mask or respirator fitted with an organic vapour cartridge should be worn if the product is used in a poorly ventilated area

Filter type: A

Hand protection:

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; >= 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.

Skin protection:

Wear suitable protective clothing.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance	liquid silver
Odor	None
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	> 98 °C (> 208.4 °F)
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density	No data available / Not applicable
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information

No data available / Not applicable

SECTION 10: Stability and reactivity**10.1. Reactivity**

Reacts with alcohols and amines.

Reacts with oxidants, acids and lyes

Reaction with some curing agents may produce an exothermic reaction which in large masses could cause runaway polymerization.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

Hydrocarbons

carbon oxides.

nitrogen oxides

Rapid polymerisation may generate excessive heat and pressure.

SECTION 11: Toxicological information**11.1. Information on toxicological effects****General toxicological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Inhalative toxicity:

May cause irritation to respiratory system.

Dermal toxicity:

Prolonged or repeated skin contact with silver and its salts may cause a blue-gray discoloration of the skin and mucous membranes that is irreversible (Argyria).

Skin irritation:

Prolonged or repeated contact may cause skin irritation.

Eye irritation:

Irritating to eyes.

Prolonged or repeated contact may cause eye irritation.

Sensitizing:

May cause sensitization by skin contact.

Mutagenicity:

Possible risk of irreversible effects.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
.gamma.-Butyrolactone 96-48-0	LD50 LC50	1.582 mg/kg > 2,68 mg/l	oral inhalation	4 h	rat rat	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity)

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
.gamma.-Butyrolactone 96-48-0	highly irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	sensitising	Guinea pig maximisa- tion test	guinea pig	OECD Guideline 406 (Skin Sensitisation)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2,6-Diglycidyl phenyl allyl ether oligomer	positive positive with metabolic activation	bacterial reverse mutation assay (e.g Ames test) bacterial reverse mutation assay (e.g Ames test)	with and without		other guideline:
2,6-Diglycidyl phenyl allyl ether oligomer	positive positive	intraperitoneal intraperitoneal		mouse	other guideline:
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		

SECTION 12: Ecological information**General ecological information:**

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Ecotoxicity:

Harmful to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.

Mobility:

Cured adhesives are immobile.

Persistence and Biodegradability:

The product is not biodegradable.

Bioaccumulative potential:

No data available.

12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Bisphenol-F epichlorohydrin resin; MW<700 9003-36-5	LC50	3,6 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	OECD Guideline 203 (Fish, Acute Toxicity Test)
Bisphenol-F epichlorohydrin resin; MW<700 9003-36-5	EC50	2,8 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Bisphenol-F epichlorohydrin resin; MW<700 9003-36-5	EC50	220 mg/l	Algae	96 h		OECD Guideline 201 (Alga, Growth Inhibition Test)
Polyglycidyl ester 68475-94-5	LC50	1 - 10 mg/l	Fish	96 h		OECD Guideline 203 (Fish, Acute Toxicity Test)
.gamma.-Butyrolactone 96-48-0	LC50	220 - 460 mg/l	Fish	96 h	Leuciscus idus	
.gamma.-Butyrolactone 96-48-0	EC50	> 500 mg/l	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
.gamma.-Butyrolactone 96-48-0	EC50	360 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Poly(oxypropylene)diamine 9046-10-0	LC50	> 100 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Poly(oxypropylene)diamine 9046-10-0	EC50	15 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Poly(oxypropylene)diamine 9046-10-0	EC50	135 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	OECD Guideline 201 (Alga, Growth Inhibition Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	LC50	24 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,4-Bis(2,3- epoxypropoxy)butane 2425-79-8	EC50	75 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
---------------------------------	--------	-------------------------	---------------	--------

Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5		aerobic	12 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Polyglycidyl ester 68475-94-5		no data	0 - 60 %	
.gamma.-Butyrolactone 96-48-0		aerobic	62 - 90 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Poly(oxypropylene)diamine 9046-10-0		aerobic	0 %	
1,4-Bis(2,3-epoxypropoxy)butane 2425-79-8			37 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
.gamma.-Butyrolactone 96-48-0	-0,566					OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Product disposal:

Do not empty into drains / surface water / ground water.

Dispose of in accordance with local and national regulations.

Disposal of uncleaned packages:

After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorised legal land fill site or incinerated.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

The valid EWC waste code numbers are source-related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users. We will be happy to advise you.

SECTION 14: Transport information

14.1. UN number

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.4. Packaging group

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADNR, IMDG, IATA-DGR.

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

VOC content < 3 %
(1999/13/EC)

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- R20/21 Harmful by inhalation and in contact with skin.
- R22 Harmful if swallowed.
- R34 Causes burns.
- R36/37 Irritating to eyes and respiratory system.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R36/38 Irritating to eyes and skin.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R67 Vapours may cause drowsiness and dizziness.
- R68 Possible risk of irreversible effects.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.