



SAFETY DATA SHEET

BETZDEARBORN DCL32

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

1.1. Product identifier

Trade name or designation of the mixture BETZDEARBORN DCL32

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

Identified uses Dechlorination agent
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

AECI Water	Postal address
1 Wharhirst Road	AECI Water
Umbogintwini	P.O.Box 2954,
Durban.4126	Kempton Park, 1620
Kwa Zulu Natal South Africa	Gauteng.
Tel: +27 11 971 0400	
Website: www.improchem.co.za - www.aeciworld.com	
E-mail: aeciwater@aeciworld.com	

1.4. Emergency telephone number

+27 800 SPILLS or +27 0800 774557 or +27 31 904 1400
(Office Hrs)

Multilingual emergency number (24/7)

Europe, Middle East, Africa, Israel (Europe and English language speaking countries):
+44(0)1235 239670

Middle East & Africa (speaking Arabic):
+44(0)1235 239671 SUEZWATERTECH29003-NCEC

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral Category 4 H302 - Harmful if swallowed.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Sodium bisulphite

Hazard pictograms



Signal word Warning

Hazard statements

H302 Harmful if swallowed.

Precautionary statements

Prevention

P264 Wash thoroughly after handling.



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P270	Do not eat, drink or smoke when using this product.
Response	
P301 + P312 P330	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell. Rinse mouth.
Storage	Not available.
Disposal	
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
Supplemental label information	EUH031 - Contact with acids liberates toxic gas.
2.3. Other hazards	This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description	Sodium bisulphite, aqueous solution				
Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Sodium bisulphite	30 - < 40	7631-90-5 231-548-0	01-2119524563-42	016-064-00-8	
Classification: Acute Tox. 4;H302					
Sulphur dioxide	< 1	7446-09-5 231-195-2	01-2119485028-34	016-011-00-9	#
Classification: Press. Gas;H280, Acute Tox. 3;H331, Skin Corr. 1B;H314					

List of abbreviations and symbols that may be used above

ATE: Acute toxicity estimate.
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. #: This substance has been assigned Union workplace exposure limit(s).

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.
4.1. Description of first aid measures	
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
4.2. Most important symptoms and effects, both acute and delayed	Exposure may cause temporary irritation, redness, or discomfort.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	No unusual fire or explosion hazards noted.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).



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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	During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	Move containers from fire area if you can do so without risk. Prevent spillage and fire-fighting water from entering in public sewers or the immediate environment.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Wear appropriate protective equipment and clothing during clean-up.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
6.2. Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
6.4. Reference to other sections	For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Do not taste or swallow. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Vent carefully before opening. Sulfur dioxide can be formed during the normal use and handling of this product.
7.2. Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Do not store at elevated temperatures. Do not freeze.
7.3. Specific end use(s)	Only for industrial users

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

US. ACGIH Threshold Limit Values Components

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3
Sulphur dioxide (CAS 7446-09-5)	STEL	0,25 ppm

South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2 Components

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	10 mg/m3



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South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2

Components	Type	Value
Sulphur dioxide (CAS 7446-09-5)	STEL	0,5 ppm

Egypt. OELs. Threshold limits of air pollutants in the workplace (Decree No. 388, Annex 8), as amended

Components	Type	Value
Sodium bisulphite (CAS 7631-90-5)	TWA	5 mg/m3
Sulphur dioxide (CAS 7446-09-5)	STEL	13 mg/m3
		5 ppm
	TWA	5,2 mg/m3
		2 ppm

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU

Components	Type	Value
Sulphur dioxide (CAS 7446-09-5)	STEL	2,7 mg/m3
		1 ppm
	TWA	1,3 mg/m3
		0,5 ppm

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

Workers

Components	Value	Assessment factor	Notes
Sodium bisulphite (CAS 7631-90-5)			
Long-term, Systemic, Inhalation	246 mg/m3		
Sulphur dioxide (CAS 7446-09-5)			
Long-term, Local, Inhalation	2,7 mg/m3		irritation respiratory tract
Short-term, Local, Inhalation	2,7 mg/m3		irritation respiratory tract

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Sodium bisulphite (CAS 7631-90-5)			
Freshwater	1,09 mg/l	10	
Marine water	0,11 mg/l	100	
STP	10,71 mg/l	10	

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles). Face shield is recommended.
 SANS1404 - EN166

Skin protection



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- Hand protection	Suitable gloves can be recommended by the glove supplier. Nitrile gloves (Protection against unintentional short-term contact) Butyl gloves (Protection against unintentional short-term contact) PVC gloves (Protection against unintentional short-term contact) Penetration time: > 480 min Coating thickness: 0.5 mm SANS1228 Wear appropriate chemical resistant gloves.
- Other	Wear suitable protective clothing. SANS 434
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. In case of insufficient ventilation, use a breathing mask with filter type: E2-P2 SANS 50140; SANS 50141
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Form	Liquid
Colour	Colourless to light yellow
Odour	Strong odour
Melting point/freezing point	-8 °C
Boiling point or initial boiling point and boiling range	100 °C
Flammability	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Flash point	Not applicable
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH (concentrated product)	4 Neat
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	100 %
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	18 mmHg
Vapour pressure temp.	21 °C
Density and/or relative density	
Relative density	1,26
Relative density temperature	21 °C
Vapour density	< 1
Particle characteristics	Not available.



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9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Evaporation rate	Slower than Ether
pH in aqueous solution	4,6 (5% Solution)
Pour point	-5 °C
Shelf life	135 Days
Viscosity	7 mPa.s
Viscosity temperature	21 °C
VOC	0 % Calculated

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Heat. Protect from freezing.
10.5. Incompatible materials	Strong acids. Strong oxidising agents.
10.6. Hazardous decomposition products	Sulphur oxides. Contact with acids liberates toxic gas.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Harmful if swallowed.

Symptoms Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
BETZDEARBORN DCL32		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Inhalation		
LC50	Rat	> 5,5 mg/l, 4 Hours (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 4000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium bisulphite (CAS 7631-90-5)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg



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Components	Species	Test Results
Inhalation		
LC50	Rat	> 5,5 mg/l, 4 hour
Oral		
LD50	Rat	1420 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Respiratory sensitisation	Based on available data, the classification criteria are not met.	
Skin sensitisation	Based on available data, the classification criteria are not met.	
Germ cell mutagenicity	Based on available data, the classification criteria are not met.	
Carcinogenicity	Based on available data, the classification criteria are not met.	
Reproductive toxicity	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.	
Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.	
Aspiration hazard	Based on available data, the classification criteria are not met.	
Mixture versus substance information	No information available.	
11.2. Information on other hazards		
Endocrine disrupting properties	The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.	
Other information	Not available.	

SECTION 12: Ecological information

12.1. Toxicity Based on available data, the classification criteria are not met for hazardous to the aquatic environment.

Product	Species	Test Results	
Aquatic			
Crustacea	LC50	Daphnia magna	229 mg/l, 48 hour (Estimated)
	NOEL	Daphnia magna	164 mg/l, 48 hour (Estimated)
Fish	LC50	Fathead minnow	229 mg/l, 96 hour (Estimated)
	NOEL	Fathead minnow	164 mg/l, 96 hour (Estimated)

12.2. Persistence and degradability

Product contains only inorganics that are not subject to typical biological degradation. Assimilation by microbes may occur in waste treatment or the environment.

- COD (mgO₂/g) 49 (calculated data)

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log K_{ow}) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Endocrine disrupting properties The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.



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12.7. 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: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal methods/information Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Sulphur dioxide (CAS 7446-09-5)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.



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Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Sulphur dioxide (CAS 7446-09-5) 75

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Sulphur dioxide (CAS 7446-09-5)

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

SECTION 16: Other information

List of abbreviations

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.

CEN: European Committee for Standardization.

CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.

EC50: Effective Concentration 50%.

IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

IMDG: International Maritime Dangerous Goods.

LC50: Lethal Concentration 50%.

LD50: Lethal Dose 50%.

MARPOL: International Convention for the Prevention of Pollution from Ships.

NOEL: No observed effect level.

PBT: Persistent, bioaccumulative and toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STEL: Short term exposure limit.

TOC: Total Organic Carbon.

vPvB: Very persistent and very bioaccumulative.

EC-No: European Commission Number

COD: Chemical Oxygen Demand

BOD: Biochemical oxygen demand.

References

Safety data sheets of raw materials.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.



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Revision information	H314 Causes severe skin burns and eye damage. H331 Toxic if inhaled.
Training information	This document has undergone significant changes and should be reviewed in its entirety.
Disclaimer	Follow training instructions when handling this material. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.
Based on EC Directive / Regulations	South African Standard : SABS ISO 11014-1:2009 - SANS 10234:2008
Further information	Correction in Section: 2,3,4,5,6,7,8,9,10,11,12,13,15,16