



SAFETY DATA SHEET

CORTROL OS5601

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

1.1. Product identifier

Trade name or designation of the mixture CORTROL OS5601

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

Identified uses Organic oxygen scavenger
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

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

Skin sensitisation

Category 1

H317 - May cause an allergic skin reaction.

2.2. Label elements

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

Contains: Carbohydrazide

Hazard pictograms



Signal word

Warning

Hazard statements

H317

May cause an allergic skin reaction.

Precautionary statements

Prevention



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P261	Avoid breathing mist/vapours.
P280	Wear protective gloves.
Response	
P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
Storage	Not available.
Disposal	Not available.
Supplemental label information	None.
2.3. Other hazards	The mixture does not contain any substances included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties at a concentration equal to or greater than 0.1% by weight. This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description	Solution of hydrazine derivative				
Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Carbohydrazide	5 - < 10	497-18-7 207-837-2	01-2119965166-31	-	
Classification: Skin Sens. 1B;H317					

List of abbreviations and symbols that may be used above

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

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. Wash contaminated clothing before reuse.
4.1. Description of first aid measures	
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
4.2. Most important symptoms and effects, both acute and delayed	May cause an allergic skin reaction. Dermatitis. Rash.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. 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. Carbon dioxide (CO2). Foam. Dry chemical powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.



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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	Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
For emergency responders	Keep unnecessary personnel away. Ensure adequate ventilation. Avoid breathing mist/vapours. 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	Avoid contact with high pH products. This accelerates decomposition to hydrazine. Avoid contact with metals such as Al, Cu, LCS as increased corrosion rates will be observed. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
7.2. Conditions for safe storage, including any incompatibilities	Keep away from heat and flame. Maximum storage temperature 35 °C. Protect from sunlight. Store in tightly closed container. Keep containers tightly closed in a cool, well-ventilated place. Protect from freezing. Store away from incompatible materials (see Section 10 of the SDS).
7.3. Specific end use(s)	Only for industrial users

SECTION 8: Exposure controls/personal protection

8.1. Control parameters	
Occupational exposure limits	No exposure limits noted for ingredient(s).
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
Carbohydrazide (CAS 497-18-7)			
Long-term, Systemic, Dermal	0,75 mg/kg	100	
Long-term, Systemic, Inhalation	2,64 mg/m3	25	

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Carbohydrazide (CAS 497-18-7)			
Freshwater	1,5 µg/l	1000	
Intermittent releases	0,015 mg/l	100	
Marine water	0,15 µg/l	10000	



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STP	2,5 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). SANS1404 - EN166	
Skin protection		
- Hand protection	Wear appropriate chemical resistant gloves. Neoprene gloves (Protection against unintentional short-term contact) Nitrile gloves (Protection against unintentional short-term contact) Coating thickness: 0.4 mm Penetration time: > 480 min SANS1228	
- Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. SANS 434	
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. In case of insufficient ventilation, use face mask with breathing filter, type: P2 SANS 50140; SANS 50143; SANS 50149	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	
Hygiene measures	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. Contaminated work clothing should not be allowed out of the workplace.	
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
Odour	Odourless.
Melting point/freezing point	-2 °C
Boiling point or initial boiling point and boiling range	99 °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)	7,4 Neat
Kinematic viscosity	Not available.



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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 1,01

Relative density
temperature 21 °C

Vapour density < 1

Particle characteristics Not available.

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

Pour point 1 °C

Shelf life 360 Days

Viscosity 3 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 Protect from freezing.

10.5. Incompatible materials Strong oxidising agents.

10.6. Hazardous
decomposition products Carbon oxides. Nitrogen oxides (NO_x).

SECTION 11: Toxicological information

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

Information on likely routes of exposure

Inhalation No adverse effects due to inhalation are expected.

Skin contact May cause an allergic skin reaction.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms May cause an allergic skin reaction. Dermatitis. Rash.

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

Acute toxicity



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Product	Species	Test Results
CORTROL OS5601		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 5000 mg/kg (Calculated according to GHS additivity formula)
Components	Species	Test Results
Carbohydrazide (CAS 497-18-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Skin corrosion/irritation	Based on available data, the classification criteria are not met.	
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.	
Respiratory sensitisation	Based on available data, the classification criteria are not met.	
Skin sensitisation	May cause an allergic skin reaction.	
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	This mixture does not contain any substances having endocrine disrupting properties with respect to human health as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.
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.
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Product	Species	Test Results
Aquatic Crustacea	10% Mortality	Ceriodaphnia 126 mg/l, 48 hour
	LC50	Ceriodaphnia 222 mg/l, 48 hour
		Daphnia magna 1120 mg/l, 48 hour
		Mysid Shrimp 1400 mg/l, 48 hour
	NOEL	Daphnia magna 250 mg/l, 48 hour
		Mysid Shrimp 500 mg/l, 48 hour



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Product		Species	Test Results
Fish	5% Mortality	Fathead minnow	126 mg/l, 96 hour
	LC50	Fathead minnow	348 mg/l, 96 hour
		Rainbow trout	2100 mg/l, 96 hour
		Sheepshead minnow	3200 mg/l, 96 hour
	NOEL	Rainbow trout	900 mg/l, 96 hour
		Sheepshead minnow	1000 mg/l, 96 hour

12.2. Persistence and degradability

- COD (mgO₂/g) 130 (calculated data)
- TOC (mg C/g) 7 (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

This mixture does not contain any substances having endocrine disrupting properties with respect to the environment as assessed in accordance with the criteria set out in Regulations (EC) No 1907/2006, (EU) No 2017/2100 and (EU) 2018/605, at a concentration equal to or greater than 0.1% by weight.

12.7. Other adverse effects

Nutrients: P = 0 mg/g ; N = 31.11 mg/g

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. Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.
Disposal methods/information	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.



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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

Not listed.

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.

Restrictions on use

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

Not listed.

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

Not listed.

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.

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 141472

Category Code(s):

G5 Cooling and retort water treatment products

G7 Boiler, steam line treatment products – nonfood contact

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



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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.
CAS: Chemical Abstract Service.
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.
TWA: Time Weighted Average.
vPvB: Very persistent and very bioaccumulative.
COD: Chemical Oxygen Demand
EC-No: European Commission Number
BOD: Biochemical oxygen demand.

References

Information on evaluation method leading to the classification of mixture

Safety data sheets of raw materials.

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

H317 May cause an allergic skin reaction.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Training information

Follow training instructions when handling this material.

Disclaimer

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: 2,6,7,8,11,12