



SAFETY DATA SHEET

OPTISPERSE ADJ5150

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

1.1. Product identifier

Trade name or designation of the mixture OPTISPERSE ADJ5150

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

Identified uses Alkalinity provider

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

Physical hazards

Corrosive to metals	Category 1	H290 - May be corrosive to metals.
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Health hazards

Skin corrosion/irritation	Category 1A	H314 - Causes severe skin burns and eye damage.
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Serious eye damage/eye irritation	Category 1	H318 - Causes serious eye damage.
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2.2. Label elements

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

Contains: Sodium hydroxide

Hazard pictograms



Signal word Danger

Hazard statements



SAFETY DATA SHEET

OPTISPERSE ADJ5150

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
Precautionary statements	
Prevention	
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P234	Keep only in original packaging.
Response	
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE/doctor.
Storage	Not available.
Disposal	Not available.
Supplemental label information	None.
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	Alkaline solution				
Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Sodium hydroxide	20 - < 30	1310-73-2 215-185-5	01-2119457892-27	011-002-00-6	
Classification: Met. Corr. 1;H290, Skin Corr. 1A;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.
4.1. Description of first aid measures	
Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control centre immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately.
Ingestion	Call a physician or poison control centre immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
4.2. Most important symptoms and effects, both acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.



SAFETY DATA SHEET

OPTISPERSE ADJ5150

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

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. Do not breathe 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. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in 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 Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. 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 get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Alkaline. Do not mix with acidic material. Do not breathe mist/vapours.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store in tightly closed container. Keep only in the original container. 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

US. ACGIH Threshold Limit Values
Components

Sodium hydroxide (CAS
1310-73-2)

Type

Ceiling

Value

2 mg/m³



SAFETY DATA SHEET

OPTISPERSE ADJ5150

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

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	STEL	4 mg/m3

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

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

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 hydroxide (CAS 1310-73-2)			
Long-term, Local, Inhalation	1 mg/m3	1	irritation respiratory tract

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Eye wash facilities and emergency shower must be available when handling this product. 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 Use personal protective equipment as required. 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) and a face shield.
SANS1404 - EN166

Skin protection

- Hand protection For prolonged or repeated skin contact use suitable protective gloves. Suitable gloves can be recommended by the glove supplier.
Gauntlet type neoprene gloves (Protection against unintentional short-term contact)
Gauntlet type nitrile gloves (Protection against unintentional short-term contact)
Penetration time: > 480 min
Coating thickness: 0.5 mm
SANS1228
Wear appropriate chemical resistant gloves.

- Other Wear appropriate chemical resistant clothing.
SANS 434

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. In case of insufficient ventilation, use a breathing mask with 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.

Environmental exposure controls Prevent from entering in public sewers or the immediate environment. 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

Material name: OPTISPERSE ADJ5150



SAFETY DATA SHEET

OPTISPERSE ADJ5150

Physical state	Liquid.
Form	Liquid
Colour	Colourless to light yellow
Odour	Odourless.
Melting point/freezing point	-16 °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)	14 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	1,27
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	-13 °C
Shelf life	720 Days
Viscosity	20 mPa.s
Viscosity temperature	21 °C
VOC	0 % Calculated

SECTION 10: Stability and reactivity

10.1. Reactivity	May be corrosive to metals.
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, flames and sparks.
10.5. Incompatible materials	Strong acids. Strong oxidising agents. Metals.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.



SAFETY DATA SHEET

OPTISPERSE ADJ5150

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	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	Causes digestive tract burns.

Symptoms Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

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

Acute toxicity

Product	Species	Test Results
OPTISPERSE ADJ5150		
Acute		
Dermal		
LD50	Rabbit	> 5000 mg/kg (Calculated according to GHS additivity formula)
Oral		
LD50	Rat	> 2000 mg/kg (Calculated according to GHS additivity formula)

Components	Species	Test Results
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LD50	Rabbit	1350 mg/kg
Oral		
LD50	Rabbit	> 500 mg/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

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.



SAFETY DATA SHEET

OPTISPERSE ADJ5150

SECTION 12: Ecological information

12.1. Toxicity	Based on available data, the classification criteria are not met for hazardous to the aquatic environment.
12.2. Persistence and degradability	No data is available on the degradability of this product. This product, being inorganic and in its highest oxidation state, has no COD, BOD or TOC.
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. Not available.
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.
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. 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. 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. UN number or ID number	UN1824
14.2. UN proper shipping name	SODIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es)	
Class	8
Subsidiary risk	-
Tunnel restriction code	(E)
14.4. Packing group	II
14.5. Environmental hazards	No.
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number or ID number	UN1824
14.2. UN proper shipping name	SODIUM HYDROXIDE SOLUTION



SAFETY DATA SHEET

OPTISPERSE ADJ5150

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards No.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number or ID number UN1824

14.2. UN proper shipping name SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards No.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number or ID number UN1824

14.2. UN proper shipping name SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards No.

ERG Code Not available.

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number or ID number UN1824

14.2. UN proper shipping name SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards

Marine pollutant No.

EmS F-A, S-B

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

14.7. Maritime transport in bulk according to IMO instruments Not established.



SAFETY DATA SHEET

OPTISPERSE ADJ5150

ADN; ADR; IATA; IMDG; RID



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

Sodium hydroxide (CAS 1310-73-2)

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

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. – 141529

Category Code(s):

G5 Cooling and retort water treatment products

G6 Boiler treatment products, steam line products – food contact



SAFETY DATA SHEET

OPTISPERSE ADJ5150

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 (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).
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 (Accord européen relatif transport des marchandises dangereuses par route).
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
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 (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).
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.
EC-No: European Commission Number
COD: Chemical Oxygen Demand
STEL: Short-term Exposure Limit.
BOD: Biochemical oxygen demand.
IMDG Code: International Maritime Dangerous Goods Code.

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

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

Revision information

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

Training information

Provide training on safe handling while considering the type of application and exposure scenarios. Follow training instructions when handling this material.

Based on EC Directive / Regulations

South African Standard : SABS ISO 11014-1:2009 - SANS 10234:2008



SAFETY DATA SHEET

OPTISPERSE ADJ5150

Further information

Correction in Section: 2,3,4,5,6,7,8,10,11,12