



MATERIAL SAFETY DATA SHEET

Issue Date: 23-October-2018

Version 03

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name	ZP Oxygen CalO Solution
Product Code	OCS006

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

Recommended Use	Use as laboratory reagent.
Uses advised against	No information available.

1.3 Manufacture/Supplier

	Aliksir Ltd. PD202 Science Centre Wolverhampton Science Park Glaisher Drive Wolverhampton WV10 9RU
Telephone	01902 287057
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1.4 Emergency Telephone

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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification – Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not hazardous substance or mixture according to regulation (EC) 1272/2008 [GHS]

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Hazard symbol	None
Signal word	None
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	Observe good laboratory hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste in accordance with local authority requirements.

2.3 Other Hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPbB) at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Water	7732-18-5	>95 %
Phosphate buffered saline tablet	–	–
Sodium Chloride	7647-14-5	0-1 %
Potassium Chloride	7447-40-7	0-1 %
Sodium phosphate, dibasic	7758-79-4	0-1 %
Sodium Sulphite	7757-83-7	0-5 %
Cobalt (II) Chloride Hexahydrate	7791-13-1	0-1 %

4. FIRST AID MEASURES

4.1 First Aid Measures

General Advice	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. Show this safety data sheet to the doctor in attendance.
Eye Contact	Remove contact lens and rinse immediately with plenty of water. Seek medical attention.
Skin Contact	Wash off immediately with soap and water. Seek medical attention if irritation persists.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, seek medical attention.
Ingestion	Clean mouth with water and drink plenty of water. Seek medical attention if symptoms occur.

Production of First-Aiders Use personal protective equipment. See Section 8 for more detail. Do not use mouth to mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical devices.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms/effects No information available

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

5.2 Specific Hazards Arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapours.

5.3 Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 General fire hazards

No unusual fire or explosion hazards noted.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Use personal protective equipment. Evacuate personnel to safe areas. Ensure adequate ventilation.

6.2 Environmental Precautions

Environmental Precautions Beware of vapours accumulating to form explosives concentrations. Vapours can accumulate in low areas. Avoid discharge into the ground and water courses.

6.3 Method and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Soak up with inert absorbent material. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Large spill: Stop flow of material. Dike the spilled material. Absorb in vermiculite, dry sand or each and place into containers. Following product recovery flush area with water.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Handling To avoid risks to human health and the environment, comply with the instructions for use. Wear personal protective equipment.

Avoid breathing dust/fume/gas/mist/vapours/spray.
Ensure adequate ventilation, especially in confined areas.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Storage Keep container tightly closed in a dry and well-ventilated place.
Store at room temperature in the original container.
Keep away from direct sunlight.

Incompatible Products No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure Guidelines

Component	European Union	The United Kingdom	France	Spain	Germany
Cobalt (II) Chloride, Hexahydrate 7791-13-1	-	STEL: 0.3 mg/m ³ 15 min TWA: 0.1 mg/m ³ 8 hr Resp. Sens	-	TWA / VLA-ED: 0.02 mg/m ³ (8 horas)	Haut
Component	Italy	Portugal	The Netherlands	Finland	Denmark
Cobalt (II) Chloride, Hexahydrate 7791-13-1	-	TWA: 0.02 mg/m ³ 8 horas	-	TWA: 0.02 mg/m ³ 8 tunteina	-
Component	Austria	Switzerland	Poland	Norway	Ireland
Cobalt (II) Chloride, Hexahydrate 7791-13-1	Haut	Haut/Peau TWA: 0.05 mg/m ³ 8 Stunden	-	TWA: 0.02 mg/m ³ 8 timer	-

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

Appropriate Engineering Controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face Protection Wear chemical splash goggles. If splashes are likely to occur, wear: Face-shield.

Skin and Body Protection Wear protection gloves/clothing

Respiratory Protection No protective equipment is needed under normal use conditions. In case of inadequate ventilation wear respiratory protection.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties.

a) Physical State	Liquid
b) Appearance	Clear
c) Odour	None
d) Odour Threshold	No information available
e) pH Range	7.2 – 7.6 at 25°C
f) Melting point/freezing point	No information available
g) Boiling Point/Range	~100 °C / 212 °F
h) Flash Point (High in °C)	N/A
i) Evaporation Rate	No information available
j) Flammability (solid, gas)	No information available
k) Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
l) Vapor pressure	No information available
m) Vapor Density	No information available
n) Specific Gravity	No information available
o) Water Solubility	Soluble
p) Solubility in other solvents	No information available
q) Partition coefficient	No information available
r) Autoignition Temperature	No information available
s) Decomposition Temperature	No information available
t) Kinematic Viscosity	No information available
u) Dynamic Viscosity	No information available
v) Explosive Properties	No information available
w) Oxidizing Properties	No information available
x) Softening Point	No information available
y) VOC Content (%)	No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity

This product is stable and no-reactive under normal conditions of use, storage and transport.

10.2 Chemical Stability

Stable under normal conditions

10.3 Explosion Data

Sensitivity to Mechanical Impact None

Sensitivity to Static Discharge None

10.4 Possibility of Hazardous Reactions

None under normal processing.

10.5 Conditions to Avoid

Extremes of temperature and direct sunlight.

10.6 Incompatible Materials

Strong oxidizing agents. Acids

10.7 Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation	No adverse effects due to inhalation are expected.
Eye Contact	Direct contact with eyes may cause temporary irritation.
Skin Contact	No adverse effects due to skin contact are expected.
Ingestion	Hypertonic salt solutions can produce inflammatory reactions in GI tract.

11.2 Acute Toxicity

Production Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water 7732-18-5	LD50 > 90 ml/kg (Rat)	-	-
Sodium Sulphite 7757-83-7	= 820 mg/kg (Rat)	-	>22 mg/L (Rat) 1 h
Cobalt (II) Chloride, Hexahydrate 7791-13-1	=418 mg/kg (Rat)	20 mg/kg (Rat)	-

11.3 Information on Toxicological Effects

Symptoms No information available

11.4 Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization	No information available
Mutagenic Effects	No data available to indicate product components are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to a carcinogen by IARC, AOGIH, NTP, or OSHA
Reproductive Effects	This product is not expected to cause reproductive or developmental effects.
STOT – single exposure	No information available
STOT – repeated exposure	No information available
Aspiration hazard	No information available

11.5 Numerical measures of toxicity – Product Information

Unknown Acute Toxicity 0.3% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 15,185.00 mg/kg

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

0.3% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Potassium Chloride	EC50: 2500 mg/L/72h	750-1020 mg/l LC50 96h 1060 mg/l LC50 96 h	EC50: 825 mg/l/48h
Sodium Chloride	-	-	EC50: 1000 mg/l/48h
Sodium Sulphite	-	220-460: 96 h Leuciscus idus mg/L LC50 static	330: 24 h Psammechinus miliaris mg/L LC50
Cobalt Chloride, Hexahydrate	-	0.569-3.474 mg/l, 96hours	1.11 mg/l, 48 hours

12.2 Persistence and Degradability

No information available

12.3 Bioaccumulation/Accumulation

No information available

Component	log Pow
Sodium Sulphite	-4

12.4 Results of PBT and vPvB assessment

No information available

12.5 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.

12.6 Endocrine Disruptor Information

No information available

13. DISPOSAL CONSIDERATIONS

- 13.1 Disposal Instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
- 13.2 Waste Disposal Methods** Disposal should be in accordance with applicable regional, national and local laws and regulations.
- 13.3 Contaminated Packaging** Empty containers should be taken to approved waste handling site for disposal.

14. TRANSPORT INFORMATION

DOT	Not regulated
ICAO	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
RID	Not regulated
ADR	Not regulated

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

No information available.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

16. OTHER INFORMATION

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Disclaimer:

IMPORTANT: 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.