

# FLYLEAF

## Oxygen meter OXY 7

Article number: HPK6.1

### From:

Dostmann Electronic GmbH

Waldenbergweg 3B


97877 Wertheim

Germany

Date of compilation: 2020-07-08

## 1 Composition/information on ingredients

### Bill of materials

Name of substance	Identifier	Number of pieces	Classification acc. to GHS	Pictograms	Page
Electrolyte solution	Article number HPK9	1			3 – 14
Standard zero (0) oxygen calibration solution	CAS No 7757-83-7  EC No 231-821-4  Article number HPL0	1	Skin Irrit. 2 / H315 Eye Irrit. 2A / H319		15 – 27

# Oxygen meter OXY 7

Article number: HPK6.1

## 2 Hazards identification

### 2.1 Label elements

**Signal word** Not required

**Labelling according to Regulation (EC) No 1272/2008 (CLP)**

**Precautionary statements**

## 3 Transport information

- 3.1 UN number** Not subject to transport regulations
- 3.2 UN proper shipping name** Not relevant
- 3.4 Packing group** Not relevant
- 3.5 Environmental hazards** None (non-environmentally hazardous acc. to the dangerous goods regulations)
- 3.6 Special precautions for user**  
There is no additional information.
- 3.7 Information for each of the UN Model Regulations**  
The cargo is not intended to be carried in bulk.
- 3.8 Information for each of the UN Model Regulations**
- **Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**  
Not subject to ADR, RID and ADN.
  - **International Maritime Dangerous Goods Code (IMDG)**  
Not subject to IMDG.
  - **International Civil Aviation Organization (ICAO-IATA/DGR)**  
Not subject to ICAO-IATA.

# Safety data sheet

Safe Work Australia - Code of Practice



## Electrolyte solution

article number: **HPK9**  
Version: **GHS 1.0 en**

date of compilation: 2020-03-16

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

### 1.1 Product identifier

Identification of the substance	<b>Electrolyte solution</b>
Article number	HPK9
Registration number (REACH)	not relevant (mixture)

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

**Identified uses:** laboratory chemical  
laboratory and analytical use

### 1.3 Details of the supplier of the safety data sheet

#### supplier

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

#### Manufacturer

### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/EC. This mixture does not meet the criteria for classification.

### 2.2 Label elements

#### Labelling GHS

not required

**Signal word** not required

### 2.3 Other hazards

There is no additional information.

## Electrolyte solution

article number: **HPK9**

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Description of the mixture

This mixture does not meet the criteria for classification.

Name of substance	Identifier	wt%	Classification acc. to 1272/2008/EC	Pictograms	Specific Conc. Limits
Glycerine	CAS No 56-81-5  EC No 200-289-5  REACH Reg. No 01-2119471987- 18-xxxx	15 - 35			

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures



##### General notes

Take off contaminated clothing.

##### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following skin contact

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

##### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Symptoms and effects are not known to date

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

Treat symptomatically.

## Electrolyte solution

article number: **HPK9**

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

#### 5.2 Special hazards arising from the substance or mixture

None.

##### Hazardous combustion products

May produce toxic fumes of carbon monoxide if burning.

#### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures



##### For non-emergency personnel

No special measures are necessary.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

#### 6.3 Methods and material for containment and cleaning up

##### Advice on how to contain a spill

Covering of drains.

##### Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## Electrolyte solution

article number: **HPK9**

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Provision of sufficient ventilation.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 - 25 °C.

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Source
AU	glycerine	56-81-5	mist	WES		10					WES

##### Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur

mist As mists

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

##### Relevant DNELs/DMELs/PNECs and other threshold levels

- **relevant DNELs of components of the mixture**

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Glycerine	56-81-5	DNEL	56 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects

## Electrolyte solution

article number: **HPK9**

### • relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Environmental compartment	Exposure time
Glycerine	56-81-5	PNEC	8.85 mg/l	water	intermittent release
Glycerine	56-81-5	PNEC	0.885 mg/l	freshwater	short-term (single instance)
Glycerine	56-81-5	PNEC	0.088 mg/l	marine water	short-term (single instance)
Glycerine	56-81-5	PNEC	1,000 mg/l	sewage treatment plant (STP)	short-term (single instance)
Glycerine	56-81-5	PNEC	3.3 mg/kg	freshwater sediment	short-term (single instance)
Glycerine	56-81-5	PNEC	0.33 mg/kg	marine sediment	short-term (single instance)
Glycerine	56-81-5	PNEC	0.141 mg/kg	soil	short-term (single instance)

## 8.2 Exposure controls

### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### • hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

#### • type of material

NBR (Nitrile rubber)

#### • material thickness

>0,11 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation.

## Electrolyte solution

article number: **HPK9**

### Environmental exposure controls

Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	liquid (fluid)
Colour	colourless
Odour	odourless
Odour threshold	No data available

#### Other physical and chemical parameters

pH (value)	7 (20 °C)
Melting point/freezing point	not determined
Initial boiling point and boiling range	100 °C at 1,013 hPa 212 °F at 1,013 mPa
Flash point	400 °C 752 °F
Evaporation rate	no data available
Flammability (solid, gas)	not relevant (fluid)
<u>Explosive limits</u>	
• lower explosion limit (LEL)	2.6 vol% (99 g/m <sup>3</sup> )
• upper explosion limit (UEL)	11.3 vol% (435 g/m <sup>3</sup> )
Explosion limits of dust clouds	not relevant
Vapour pressure	23 hPa at 20 °C 17 mmHg at 20 °C
Density	This information is not available.
Vapour density	This information is not available.
Bulk density	Not applicable
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	no data available
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	no data available
Viscosity	not determined
Explosive properties	Shall not be classified as explosive
Oxidising properties	none



## Electrolyte solution

article number: **HPK9**

### 9.2 Other information

There is no additional information.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

In case of warming: Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

There is no additional information.

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

#### • Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### • Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

##### • If swallowed

data are not available

## Electrolyte solution

article number: **HPK9**

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

data are not available

**Other information**

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

**Aquatic toxicity (acute)**

**Aquatic toxicity (acute) of components of the mixture**

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Glycerine	56-81-5	LC50	54,000 mg/l	rainbow trout (Oncorhynchus mykiss)	96 h

### 12.2 Process of degradability

Data are not available.

**Degradability of components of the mixture**

Name of substance	CAS No	Process	Degradation rate	Time
Glycerine	56-81-5	biotic/abiotic	63 %	14 d

### 12.3 Bioaccumulative potential

Data are not available.

**Bioaccumulative potential of components of the mixture**

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Glycerine	56-81-5		-1.75 (pH value: 7.4, 25 °C)	

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## Electrolyte solution

article number: **HPK9**

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

### SECTION 14: Transport information

- |      |   |  |
|------|---|--|
| 14.1 | UN number   | (not subject to transport regulations)                                       |
| 14.2 | UN proper shipping name   | not relevant   |
| 14.3 | Transport hazard class(es)  | not relevant   |
|      | Class   | -  |
| 14.4 | Packing group   | not relevant not assigned to a packing group                                 |
| 14.5 | Environmental hazards   | NONE (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | <b>Special precautions for user</b>   |  |
|      | There is no additional information.   |  |
| 14.7 | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>             |  |
|      | The cargo is not intended to be carried in bulk.                                      |  |
| 14.8 | <b>Information for each of the UN Model Regulations</b>                               |  |
|      | • <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> |  |
|      | Not subject to ADR, RID and ADN.  |  |
|      | • <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |  |
|      | Not subject to IMDG.  |  |
|      | • <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>                    |  |
|      | Not subject to ICAO-IATA.   |  |

## Electrolyte solution

article number: **HPK9**

### SECTION 15: Regulatory information

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

##### National inventories

Country	National inventories	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CACL-ENCS	all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

##### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CACL-ENCS	List of Existing and New Chemical Substances (CACL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

### SECTION 16: Other information

##### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF	bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)

## Electrolyte solution

article number: **HPK9**

Abbr.	Descriptions of used abbreviations
Ceiling-C	ceiling value
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
COD	chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
log KOW	n-octanol/water
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
vPvB	very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne conatminants

### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

not relevant.

# Safety data sheet

Safe Work Australia - Code of Practice



## Electrolyte solution

article number: **HPK9**

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### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

# Safety data sheet

Safe Work Australia - Code of Practice



## Standard zero (0) oxygen calibration solution

article number: **HPL0**  
Version: **GHS 1.0 en**

date of compilation: 2020-03-16

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

#### 1.1 Product identifier

Identification of the substance	<b>Sodium sulphite</b>
Article number	HPL0
Registration number (REACH)	This information is not available.
EC number	231-821-4
CAS number	7757-83-7

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

**Identified uses:** laboratory chemical  
laboratory and analytical use

#### 1.3 Details of the supplier of the safety data sheet supplier

Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
D-76185 Karlsruhe  
Germany

**Telephone:** +49 (0) 721 - 56 06 0

**Telefax:** +49 (0) 721 - 56 06 149

**e-mail:** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

**Website:** [www.carlroth.de](http://www.carlroth.de)

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

**e-mail (competent person):** [sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

#### Manufacturer

Dostmann  
Electronic GmbH  
Waldenbergweg 3B  
97877 Wertheim

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 Westmead, NSW	131126	

Emergency information service

**Poison Centre Munich: +49/(0)89 19240**

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification acc. to GHS

Classification acc. to GHS			
Section	Hazard class	Hazard class and category	Hazard statement
3.2	skin corrosion/irritation	(Skin Irrit. 2)	H315
3.3	serious eye damage/eye irritation	(Eye Irrit. 2A)	H319

##### Supplemental hazard information

Code	Supplemental hazard information
EUH031	contact with acids liberates toxic gas

#### 2.2 Label elements

##### Labelling GHS

##### Signal word

**Warning**

##### Pictograms

GHS07



##### Hazard statements

H315 Causes skin irritation  
 H319 Causes serious eye irritation

##### Precautionary statements

##### **Precautionary statements - prevention**

P280 Wear protective gloves.

##### **Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P321 Specific treatment (see on this label).  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.

##### **Supplemental hazard information**

EUH031 Contact with acids liberates toxic gas.

##### **Labelling of packages where the contents do not exceed 125 ml**

Signal word: **Warning**



# Safety data sheet

Safe Work Australia - Code of Practice



## Standard zero (0) oxygen calibration solution

article number: **HPL0**

Symbol(s)



H319	Causes serious eye irritation.
P280	Wear protective gloves.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
EUH031	Contact with acids liberates toxic gas.

### 2.3 Other hazards

There is no additional information.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Sodium sulphite
EC number	231-821-4
CAS number	7757-83-7
Molecular formula	Na <sub>2</sub> O <sub>3</sub> S
Molar mass	126 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures



#### General notes

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

#### Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

#### Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

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

Irritation

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

Treat symptomatically.

## Standard zero (0) oxygen calibration solution

article number: HPLO

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



##### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings  
water spray, foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

##### Unsuitable extinguishing media

water jet

#### 5.2 Special hazards arising from the substance or mixture

Non-combustible.

##### Hazardous combustion products

In case of fire may be liberated: sulphur oxides (SO<sub>x</sub>)

#### 5.3 Advice for firefighters

Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures



##### For non-emergency personnel

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Do not breathe dust. Avoid contact with skin, eyes and clothes.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

#### 6.3 Methods and material for containment and cleaning up

##### Advice on how to contain a spill

Covering of drains.

##### Advice on how to clean up a spill

Take up mechanically. Control of dust.

##### Other information relating to spills and releases

Place in appropriate containers for disposal.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## Standard zero (0) oxygen calibration solution

article number: HPL0

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

No special measures are necessary.

- **Measures to prevent fire as well as aerosol and dust generation**

Removal of dust deposits.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation.

- **Specific designs for storage rooms or vessels**

Recommended storage temperature: 15 – 25 °C.

#### 7.3 Specific end use(s)

No information available.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

##### National limit values

##### Occupational exposure limit values (Workplace Exposure Limits)

Data are not available.

##### Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	298 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects

- **environmental values**

Endpoint	Threshold level	Environmental compartment	Exposure time
PNEC	1.33 mg/l	freshwater	short-term (single instance)
PNEC	0.13 mg/l	marine water	short-term (single instance)
PNEC	99.9 mg/l	sewage treatment plant (STP)	short-term (single instance)

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

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### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

##### Eye/face protection



Use safety goggle with side protection.

##### Skin protection



- **hand protection**

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

##### Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

##### Environmental exposure controls

Keep away from drains, surface and ground water.

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

##### Appearance

Physical state	solid (powder, crystalline)
Colour	white
Odour	odourless
Odour threshold	No data available

##### Other physical and chemical parameters

pH (value)	8.8 – 10 (water: 50 g/l, 20 °C)
Melting point/freezing point	911 °C
Initial boiling point and boiling range	This information is not available.
Flash point	not applicable
Evaporation rate	no data available
Flammability (solid, gas)	These information are not available
<u>Explosive limits</u>	
• lower explosion limit (LEL)	this information is not available
• upper explosion limit (UEL)	this information is not available
Explosion limits of dust clouds	these information are not available
Vapour pressure	This information is not available.
Density	2.63 g/cm <sup>3</sup>
Vapour density	This information is not available.
Bulk density	1,480 kg/m <sup>3</sup>
Relative density	Information on this property is not available.
<u>Solubility(ies)</u>	
Water solubility	307,000 mg/l at 25 °C
<u>Partition coefficient</u>	
n-octanol/water (log KOW)	-4 (25 °C) (OECD 107)
Auto-ignition temperature	Information on this property is not available.
Decomposition temperature	>500 °C
Viscosity	not relevant (solid matter)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

#### 9.2 Other information

There is no additional information.

## Standard zero (0) oxygen calibration solution

article number: HPL0

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### 10.3 Possibility of hazardous reactions

Violent reaction with: Strong oxidiser

#### 10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above: >500 °C.

#### 10.5 Incompatible materials

There is no additional information.

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species	Source
oral	LD50	>2,000 mg/kg	rat	ECHA
inhalation: dust/mist	LC50	>5.5 mg/l/4h	rat	ECHA
dermal	LD50	>2,000 mg/kg	rat	ECHA

##### Skin corrosion/irritation

Causes skin irritation.

##### Serious eye damage/eye irritation

Causes serious eye irritation.

##### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

##### Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

- **Specific target organ toxicity - single exposure**

Shall not be classified as a specific target organ toxicant (single exposure).

- **Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

### Symptoms related to the physical, chemical and toxicological characteristics

- **If swallowed**

data are not available

- **If in eyes**

data are not available

- **If inhaled**

data are not available

- **If on skin**

causes skin irritation

### Other information

None

## SECTION 12: Ecological information

### 12.1 Toxicity

acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	<464 mg/l	fish	ECHA	96 h
EC50	89 mg/l	aquatic invertebrates	ECHA	48 h
ErC50	43.8 mg/l	algae	ECHA	72 h

#### Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
EC50	410 mg/l	microorganisms	ECHA	17 h
NOEC	≥316 mg/l	fish	ECHA	34 d
growth (EbCx) 10%	153 mg/l	microorganisms	ECHA	17 h

### 12.2 Process of degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

n-octanol/water (log KOW)

-4 (25 °C)

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Data are not available.

### 12.6 Other adverse effects

Data are not available.

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

##### **Sewage disposal-relevant information**

Do not empty into drains.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

### SECTION 14: Transport information

- |      |   |  |
|------|---|--|
| 14.1 | UN number   | (not subject to transport regulations)                                       |
| 14.2 | UN proper shipping name   | not relevant   |
| 14.3 | Transport hazard class(es)  | not relevant   |
|      | Class   | -  |
| 14.4 | Packing group   | not relevant not assigned to a packing group                                 |
| 14.5 | Environmental hazards   | none (non-environmentally hazardous acc. to the dangerous goods regulations) |
| 14.6 | <b>Special precautions for user</b>   |  |
|      |   | There is no additional information.  |
| 14.7 | <b>Transport in bulk according to Annex II of MARPOL and the IBC Code</b>             |  |
|      |   | The cargo is not intended to be carried in bulk.                             |
| 14.8 | <b>Information for each of the UN Model Regulations</b>                               |  |
|      | • <b>Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)</b> |  |
|      |   | Not subject to ADR, RID and ADN.   |
|      | • <b>International Maritime Dangerous Goods Code (IMDG)</b>                           |  |
|      |   | Not subject to IMDG.   |
|      | • <b>International Civil Aviation Organization (ICAO-IATA/DGR)</b>                    |  |
|      |   | Not subject to ICAO-IATA.  |



## Standard zero (0) oxygen calibration solution

article number: **HPL0**

### SECTION 15: Regulatory information

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

##### National inventories

Substance is listed in the following national inventories:

Country	National inventories	Status
AU	AICS	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

##### Legend

AICS	Australian Inventory of Chemical Substances
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information

##### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CMR	Carcinogenic, Mutagenic or toxic for Reproduction

## Standard zero (0) oxygen calibration solution

article number: **HPL0**

Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
vPvB	very Persistent and very Bioaccumulative

### Key literature references and sources for data

- UN Recommendations on the Transport of Dangerous Good
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H315	causes skin irritation
H319	causes serious eye irritation

# Safety data sheet

Safe Work Australia - Code of Practice



## Standard zero (0) oxygen calibration solution

article number: **HPL0**

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### Disclaimer

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.