



Material Safety Data Sheet Oxygen Electrochemical Sensors

1. Product Identification - O₂

Electrochemical sensors for:	OXYGEN		
Alphasense Product Codes	O2-A1	O2-C2	
	O2-A2	O2-C3	
	O2-A3	O2-E1	O2-EP
	O2-G1	O2-E2	O2-ET
	O2-G2	E series no longer in production	

Product Use:	Sensing component for gas detection devices
Supplier Name:	ALPHASENSE Ltd
Address:	Sensor Technology House 300 Avenue West Skyline120, Great Notley Essex. CM77 7AA. UK
Telephone Number:	+44 (0) 1376 556700
Fax Number:	+44 (0) 1376 335899
Email:	sensors@alphasense.com

2. Chemical Composition & Characterisation - O₂

Alphasense electrochemical sensors are sealed units containing small quantities of:
Potassium acetate (KC₂H₃O₂)
Lead (Pb)
Graphite (C)
Lead Oxide (PbO)
Antimony (Sb)
Platinum (Pt)
ABS (outer casing)
Polytetrafluoroethylene (PTFE)
Cellulose

3. Hazard Identification - O₂

According to Health & Safety at Work Act (1974) and COSHH Regulations (1988) these sensors are not considered a chemical hazard in normal use.

4. Transportation - O₂

There are no general requirements for special labelling or packaging, although you are advised to check for specific local regulations.
The following regulations apply to Alphasense electrochemical sensors:

UN2800 (Batteries Wet Non-Spillable), Dangerous Goods Regulation Section 4.5,

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5. Storage & Use - O₂

Alphasense electrochemical sensors should only be used in the designated manner. (See section 1).

Environmental Conditions: Sensors must not be exposed to temperatures, humidities and pressures outside the ranges quoted in the individual sensor datasheets.

Storage Conditions: Sensors must be stored in airtight containers between 0 and 20°C.

Shelf-life Maximum of 6 months

6. Accidental Release Measures - O₂

Exposure to the sensor electrolyte (Irritant) is the only component that may potentially prove hazardous to health. Exposure can occur as a result of misuse, incorrect operation, manufacturing error or physical damage.

Personal precautions in normal use: No eye or skin protection needed.

First Aid measures in the event of electrolyte leakage: Rinse immediately in copious amounts of water and seek medical advice if contact with the eyes or mouth has been made.

7. Waste Disposal Measures - O₂



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

Oxygen sensors contain lead and should not be disposed of in normal trade waste.

Sensors must not be burned because of the potential risk of evolution of toxic fumes.



Material Safety Data Sheet Toxic Electrochemical Sensors

1. Product Identification - Toxic

Electrochemical sensors for:

- CARBON MONOXIDE (CO)
- CHLORINE (Cl₂)
- ETHYLENE OXIDE (EtO)
- HYDROGEN SULFIDE (H₂S)
- HYDROGEN CYANIDE (HCN)
- HYDROGEN CHLORIDE (HCL)
- SULFUR DIOXIDE (SO₂)
- NITROGEN DIOXIDE (NO₂)
- NITROGEN MONOXIDE (NO)
- PHOSPHINE (PH₃)

Alphasense Product Codes	CO-AE	ETO-A1	HCL-A1	NO-D4
	CO-AF	ETO-B1	SO2-AE	PH3-A1
	CO-AX	H2S-A1	SO2-AF	PH3-B1
	CO-BF	H2S-AE	SO2-BF	PH3-BE
	CO-BX	H2S-B1	SO2-D4	
	CO-CE	H2S-BE	NO2-A1	
	CO-CF	H2S-BH	NO2-AE	
	CO-CX	H2S-D4	NO2-B1	
	CO-D4	D2	NO2-D4	
	CL2-A1	HCN-A1	NO-A1	
	CL2-B1	HCN-B1	NO-AE	
	CL2-D4	HCN-D4	NO-B1	

Product Use: Sensing component for gas detection devices

Supplier Name: ALPHASENSE Ltd
Address: Sensor Technology House
300 Avenue West
Skyline120, Great Notley
Essex. CM77 7AA. UK
Telephone Number: +44 (0) 1376 556700
Fax Number: +44 (0) 1376 335899
Email: sensors@alphasense.com

2. Chemical Composition & Characterisation - Toxic

Alphasense toxic electrochemical sensors are sealed units containing small quantities of:

- Sulphuric acid (H₂SO₄) {CAS-No. 7664-93-9}
- Platinum (Pt) or other noble metals
- Polycarbonate or Noryl™ – sensor housing
- Polytetrafluoroethylene (PTFE)
- Glass fibre
- Activated carbon (C)
- Potassium permanganate (K₂MnO₄)

3. Hazard Identification - Toxic

According to Health & Safety at Work Act (1974) and COSHH Regulations (1988) these sensors are not considered a chemical hazard in normal use.

Material Safety Data Sheet - Toxic Sensors

4. Transportation - Toxic

There are no general requirements for special labelling or packaging, although you are advised to check for specific local regulations.

The following regulations apply to Alphasense electrochemical sensors:

UN2800 (Batteries Wet Non-Spillable), Dangerous Goods Regulation Section 4.5, Paragraph A67

5. Storage & Use - Toxic

Alphasense electrochemical sensors should only be used in the designated manner. (See section 1).

Environmental Conditions: Sensors must not be exposed to temperatures, humidities and pressures outside the ranges quoted in the individual sensor datasheets.

Storage Conditions: Sensors must be stored in airtight containers between 0 and 20°C.

Shelf-life Maximum of 6 months

6. Accidental Release Measures - Toxic

Exposure to the sensor electrolyte (acid) is the only component that may potentially prove hazardous to health. Exposure can occur as a result of misuse, incorrect operation, manufacturing error or physical damage.

Personal precautions in normal use: No eye or skin protection needed.

First Aid measures in the event of electrolyte leakage: Rinse immediately in copious amounts of water and seek medical advice if contact with the eyes or mouth has been made.

7. Waste Disposal Measures - Toxic



At the end of the product's life, do not dispose of any electronic sensor, component or instrument in the domestic waste, but contact the instrument manufacturer, Alphasense or its distributor for disposal instructions.

Sensors must not be burned because of the potential risk of evolution of toxic fumes.

Material Safety Data Sheet - PID-A1 PID-AH

1. Product Identification - VOC

Photo Ionisation Sensors for:	VOCs
Alphasense Product codes:	PID-AH ppb sensor PID-A1 ppm sensor
Product Use:	Sensing component for gas detection devices
Supplier Name:	Alphasense Ltd. Sensor Technology House 300 Avenue West Skyline 120 Great Notley Essex CM77 7AA UK
Telephone Number:	+44 (0) 1376 556700
Fax Number:	+44 (0) 1376 335899
Email:	sensors@alphasense.com

2. Chemical Composition & Characterisation - VOC

Photo Ionisation sensors are enclosed units with breather hole to allow pressure stabilisation. Their fabrication comprises of proprietary electronic parts, with other constructional stable materials at quoted working temperatures, and having much smaller quantities of the materials at the end of the listing.

ABS	outer module casing
Acetal (Delrin)	electrode stack casing
Stainless steel	electrode stack and module
Polytetrafluoroethylene (PTFE)	electrode stack
Fluoro-polymer	electrode stack
Glass	lamp
Magnesium Fluoride	lamp
Copper (Cu)	module
Brass	module
Tin (Sn)	module
Polyimide sheet	module
Glass fibre	module
Epoxy resin	module
Ferrite material	module
Spring steel	module
Ceramic	module
Silica	module
Gold (Au)	module
Silver (Ag)	module
Cellulose Lacquer	module

3. Hazard Identification - VOC

According to Health & Safety at Work Act (1974) and COSH Regulations (1988) these sensors are not considered a chemical hazard in normal use.

4. Transporting - VOC

There are no general requirements for special labelling or packaging, although the user is advised to check for specific local regulations.

5. Storage & Use - VOC

Ion science photo ionisation sensors should only be used in the designated manner. (Please see manual supplied).

Environmental Conditions: Sensors must not be exposed to temperatures; humidities and pressures outside the ranges quoted within the sensor manual.

Storage Conditions: -40°C to +80°C.
Placed in clean and dry containers, having no heavy hydrocarbon filled atmospheres.

Shelf Life: Module and electrode stack: indefinite
Lamp: 8 years

6. Accidental Release Measures - VOC

No part of the product can be considered hazardous, except if the lamp envelope is broken this will create sharp edges that may cut the skin.

Personal precautions in normal use: No eye or skin protection is needed. Internal circuit turns off the UV light source and EHT circuit when the electrode stack is removed.

First aid measures in event of laceration: Stop blood flow out of the wound and seek medical advice immediately.

7. Waste Disposal Measures - VOC



At the end of the product's life do not dispose any part of the product in domestic waste, but contact the sensor supplier, Alphasense or its distributors for disposal instructions.

Sensors should not be burned because of the potential risk of evolution of toxic fumes.