

**Detector Tube Types CO2 - 100**

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 1 of 7

**0. General notes**

These products are articles according to article 3.3 of regulation (EC) no. 1907/2006 (REACH). It is not necessary to supply a Safety Data Sheet for these products. Safety Data Sheets stipulate according to Article 31 for hazardous substances and preparations, but not for articles. MSA is obliged to supply its customers with appropriate information to ensure safe handling. A special format is not required for this information.

**1. Identification of the substance/mixture and of the company/undertaking**

**Product identifier:** Detector Tube Types CO2 - 100  
**Relevant identified uses of the substance or mixture and uses advised against**  
**Use of the substance/mixture:** Detector tube  
**Uses advised against:** The product is to be used exclusively for the applications named in the directions for use.

**Details of the supplier of the safety data sheet**

**Company name:** MSA AUER GmbH  
**Street:** Thiemannstrasse 1  
**Place:** D-12059 Berlin  
**Telephone:** ++49-30-6886-0  
**Telefax:** ++49-30-6886-1558  
**Emergency telephone:** 1-800-255-3924 USA/CDN  
 ++1-813-248-0585 internat.

**Further Information:** Apply Safety data sheet to the following products:  
 Part-No.  
 D5086814

**2. Hazards identification**

**Classification of the substance or mixture:**

As an article the product does not need to be labelled in accordance with EC-directives or respective national laws.

**Label elements**

**Hazardous components which must be listed on the label:**

Hydrazine hydrate

**S phrases:**

02 Keep out of the reach of children.  
 28 After contact with skin, wash immediately with plenty of water .  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 46 If swallowed, seek medical advice immediately and show this container or label.

**Special labelling of certain mixtures:**

Contains hydrazine hydrate. May produce an allergic reaction.

**Detector Tube Types CO<sub>2</sub> - 100**

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 2 of 7

**Additional advice on labelling:**

As an article the product does not need to be labelled in accordance with EC-directives or respective national laws.

**Other hazards:**

Detector tube: No hazards deemed to be of major importance.  
 Content: May cause cancer. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**3. Composition/information on ingredients****Mixtures****Chemical characterization:**

Sealed glass tube, filled with inert granules, treated with ethanediol, hydrazine hydrate and further chemicals, which are not dangerous in their concentration

**Hazardous components**

EC No.	Chemical name	Quantity
CAS No.	Classification	
Index No.	GHS classification	
REACH No.		
203-473-3	Ethanediol	5 %
107-21-1	Xn R22	
603-027-00-1	Acute Tox. 4; H302	
204-699-5	Sodium methanolate, sodium methoxide	< 1 %
124-41-4	F, C R11-34-14	
603-040-00-2	Skin Corr. 1B; H251 H314	
206-114-9	Hydrazine hydrate	0,1 - 0,2 %
7803-57-8	Carc. Cat. 2, T, N R45-23/24/25-34-43-50-53	
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B, Skin Sens. 1, Carc. 1B, Aquatic Acute 1, Aquatic Chronic 1; H301 H311 H331 H314 H317 H350 H400 H410	

Full text of R- and H-phrases: see section 16.

**4. First aid measures****Description of first aid measures****After inhalation:**

Not applicable for intact detector tubes.  
 When indicator material is spilled: Inhalation of vapours: Move to fresh air. Call a physician immediately.

**After contact with skin:**

Not applicable for intact detector tubes.  
 When indicator material is spilled: Wash off immediately with plenty of water. Consult a physician. Cut be handled through a doctor.

**After contact with eyes:**

Not applicable for intact detector tubes.  
 When indicator material is spilled: Rinse immediately with plenty of water, also under the eyelids. Consult an ophthalmologist immediately.

## Detector Tube Types CO2 - 100

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 3 of 7

### After ingestion:

Not applicable for intact detector tubes.

When indicator material is spilled: Call a physician immediately. If conscious, drink plenty of water.

## 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media:

The product itself does not burn. Use extinguishing measures that are appropriate to the environment.

#### Extinguishing media which must not be used for safety reasons:

None.

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

None.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures: Methods and material for containment and cleaning up:

Release not possible if used properly.

When indicator material is spilled: Dilute with water. Soak up the product with absorbent, non-flammable material (acid binding agent). Avoid contact of breakage of glass and indicator material. Dispose of as described in section 13.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling:

See the specific Instruction for use.

#### Advice on protection against fire and explosion:

No special precautions required.

### Conditions for safe storage, including any incompatibilities

#### Advice on storage compatibility:

Do not store together with edibles.

#### Further information on storage conditions:

See the specific Instruction for use. Recommended storage temperature: 20°C

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure limits (EH40)

CAS No.	Chemical name	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
107-21-1	Ethane-1,2-diol, vapour	20	52		TWA (8 h)	WEL
		40	104		STEL (15 min)	WEL

## Detector Tube Types CO<sub>2</sub> - 100

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 4 of 7

<b>Additional advice on limit values:</b>	Release not possible if used properly.
<b>Exposure controls</b>	
<b>Protective and hygiene measures:</b>	Avoid contact with eyes or skin after breaking of the tub tips. Avoid contact of breakage of glass and indicator material. Do not take up glass breads and content of the tube with bare hands. Wash hands before breaks and at the end of the workday.
<b>Respiratory protection:</b>	Not required.
<b>Hand protection:</b>	Not required. When indicator material is spilled: Protective gloves made out of: Nitrile rubber
<b>Eye protection:</b>	Not required. When indicator material is spilled: Safety glasses
<b>Skin protection:</b>	Not required.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state:</b>	Granules in a glass tube.
<b>Colour:</b>	white
<b>Odour:</b>	almost odorless

pH-Value (at 20 °C):

8

### Test method

50 g/l water

### Changes in the physical state

Melting point:	n.a.
Boiling point:	n.a.
Flash point:	n.a.
Lower explosion limits:	n.a.
Upper explosion limits:	n.a.
Vapour pressure:	n.a.
Water solubility: (at 20 °C)	low solubility
Viscosity / dynamic:	n.a.

## 10. Stability and reactivity

<b>Reactivity:</b>	None if handled correctly
<b>Possibility of hazardous reactions:</b>	None if handled correctly
<b>Conditions to avoid:</b>	None if handled correctly
<b>Hazardous decomposition products:</b>	No decomposition if stored and applied as directed.
<b>Further information:</b>	After the opening of the tube: Sensitive to air (discolouration )

## 11. Toxicological information

### Information on toxicological effects

<b>Toxicocinetics, metabolism and distribution:</b>	Not applicable for intact detector tubes. When indicator material is spilled: No data available.
-----------------------------------------------------	-----------------------------------------------------------------------------------------------------

**Detector Tube Types CO<sub>2</sub> - 100**

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 5 of 7

**Acute toxicity:** Not applicable for intact detector tubes.  
 When indicator material is spilled: No data available.

CAS No.	Chemical name				
	Exposure routes	Method	Dose	Species	h
107-21-1	Ethanediol				
	Acute oral toxicity	LD50	> 2000 mg/kg	rats	
7803-57-8	Hydrazine hydrate				
	Acute oral toxicity	LD50	60 mg/kg	rats	
	Acute dermal toxicity	LD50	91 mg/kg	rabbit	

**Sensitizing effects:** Not applicable for intact detector tubes.  
 Hydrazine hydrate: May cause sensitization by skin contact.

**Carcinogenic/mutagenic/toxic effects for reproduction:** Not applicable for intact detector tubes.  
 Hydrazine hydrate: Carcinogenic, category: K2

**12. Ecological information**

**Toxicity:** Not applicable for intact detector tubes.  
 When indicator material is spilled: No data available.

CAS No.	Chemical name				
	Aquatic toxicity	Method	Dose	Species	h
107-21-1	Ethanediol				
	Acute fish toxicity	LC50	>18500 mg/l	Rainbow trout (Oncorhynchus mykiss)	96
7803-57-8	Hydrazine hydrate				
	Acute algae toxicity	ErC50	0,0061 mg/l	Pseudokirchneriella subcapitata	
	Acute crustacea toxicity	EC50	0,18 mg/l	Daphnia	48

**Persistence and degradability:** Not applicable for intact detector tubes.  
 When indicator material is spilled: No data available.

**Bioaccumulative potential:** Not applicable for intact detector tubes.  
 When indicator material is spilled: No data available.

**Partition coefficient n-octanol/water**

CAS No.	Chemical name	Log Pow
7803-57-8	Hydrazine hydrate	-3,8

**Mobility in soil:** Not applicable for intact detector tubes.  
 When indicator material is spilled: No data available.

## Detector Tube Types CO<sub>2</sub> - 100

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 6 of 7

**Other adverse effects:**

Not applicable for intact detector tubes.

When indicator material is spilled: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Further information:**

When indicator material is spilled: Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

### 13. Disposal considerations

**Waste treatment methods**

**Recommendation Waste disposal number of waste from residues/unused products:**

150202  
WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; absorbents, filter materials, wiping cloths and protective clothing; absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances  
Classified as hazardous waste.

**Recommendation Waste disposal number of contaminated packaging:**

150101  
WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); paper and cardboard packaging

### 14. Transport information

**Land transport (ADR/RID)**

**Other applicable information (land transport):**

Not classified as dangerous regarding transport regulations.

**Inland waterways transport**

**Other applicable information (inland waterways transport):**

Not classified as dangerous regarding transport regulations.

**Marine transport**

**Other applicable information (marine transport):**

Not classified as dangerous regarding transport regulations.

**Air transport**

**Other applicable information (air transport):**

Not classified as dangerous regarding transport regulations.

### 15. Regulatory information

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

**National regulatory information**

## Detector Tube Types CO<sub>2</sub> - 100

D050016801

Revision no.: 3,00

Revision date: 22.08.2011

Print date: 22.08.2011

Page 7 of 7

### 16. Other information

**Changes:**

Sections which have been changed in comparison to the preceding edition: 1, 2, 3, 7, 10, 11, 12, 14

**Abbreviations and acronyms:**

n.a. = not applicable

n.d. = not determined

**Full text of R-phrases referred to under sections 2 and 3:**

11	Highly flammable.
14	Reacts violently with water.
22	Harmful if swallowed.
23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
34	Causes burns.
43	May cause sensitization by skin contact.
45	May cause cancer.
50	Very toxic to aquatic organisms.
53	May cause long-term adverse effects in the aquatic environment.

**Full text of H-Statements referred to under sections 2 and 3:**

H251	Self-heating: may catch fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H331	Toxic if inhaled.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Further Information:**

The information is based on present levels of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The product is to be used exclusively for the applications named in the technical leaflet or in the processing instructions. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

---

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*