

# Carbon Monoxide

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

**Product identifier**

Trade name :	Carbon monoxide
SDS Nr :	SDS_019_CLP
Chemical description :	Carbon monoxide CAS No :000630-08-0 EC No :211-128-3 Index No :006-001-00-2
Chemical formula :	CO
Registration-No. :	Registration deadline not expired.
Use :	Industrial and professional. Perform risk assessment prior to use.

### Manufacturer / Distributor:

**Ehsan International Gases**

40/9, Aurangabad, Nazimabad  
#3, Karachi 74600, Pakistan.  
+92 21 36612091 – 36612907  
[info@ehsan.com.pk](mailto:info@ehsan.com.pk)  
[www.ehsan.com.pk](http://www.ehsan.com.pk)

## 2 Hazards identification

### Classification of the substance or mixture

**Hazard Class and Category Code****Regulation EC 1272/2008 (CLP)**

- **Physical hazards** : Flammable gases - Category 1 - Danger (H220)  
Gases under pressure - Compressed gas - Warning (H280)
- **Health hazards** : Acute toxicity, Inhalation - Category 3 - Danger (H331)  
Reproductive toxicity - Unborn Child - Category 1A - Danger (H360D)  
Specific Target Organ Toxicity - Repeated exposure - Category 1 - Danger (H372)

**Classification EC 67/548 or EC 1999/** : F+; R12

45 Repr. Cat. 1; R61

T; R23-R48/23

### Label elements

## Carbon Monoxide

Labelling Regulation EC 1272/2008 (CLP)

### 2 Composition/information on ingredients

- Hazard pictograms

- Hazard pictograms code : GHS06 - GHS02 - GHS08 - GHS04

- Signal word : Danger

- Hazard statements : H331 : Toxic if inhaled.  
H220 : Extremely flammable gas.  
H360 : May damage fertility or the unborn child.  
H372 : Causes damage to organs through prolonged or repeated exposure.  
H280 : Contains gas under pressure; may explode if heated.

- Precautionary statements

- Prevention

- : P260 : Do not breathe gas, vapours.  
P210 : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
P202 : Do not handle until all safety precautions have been read and understood.

- Response

- : P304+P340+P315 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice / attention.  
P308+P313 : IF exposed or concerned: Get medical advice/attention.  
P377 : Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 : Eliminate all ignition sources if safe to do so.

- Storage

- : P405 : Store locked up.  
P403 : Store in a well-ventilated place.

Labelling EC 67/548 or EC 1999/45

Symbol(s) : F+ : Extremely flammable

: T : Toxic

R Phrase(s)

: R61 : May cause harm to the unborn child.  
R12 : Extremely flammable.  
R23 : Toxic by inhalation.  
R48/23 : Toxic : danger of serious damage to health by prolonged exposure through inhalation.

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**S** Phrase(s) : S45 : In case of accident or if you feel unwell, seek medical advice immediately ( show the label when possible).  
**Other hazards** : S53 : Avoid exposure - obtain special instructions before use.

**Other hazards** : None.

**Substance / Preparation**

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Carbon monoxide	100 %	630-08-0	211-128-3	006-001-00-2	NOTE 2 F+; R12 Repr. Cat. 1; R61 T; R23-48/23 Flam. Gas 1 (H220) Flam. Gas 1 (H220)	

## 3 Composition/information on ingredients

Contains no other components or impurities which will influence the classification of the product. Note

1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

## 4 First aid measures

**First aid measures**

- **Inhalation** : Toxic by inhalation.

Symptoms may include dizziness, headache, nausea and loss of co-ordination. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

- **Ingestion** : Ingestion is not considered a potential route of exposure.

## 5 Fire-fighting measures

**Specific hazards** : Exposure to fire may cause containers to rupture/explode.

**Hazardous combustion products** : None.

**Extinguishing media**

- **Suitable extinguishing media** : All known extinguishants can be used.

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<b>Specific methods</b>	: If possible, stop flow of product. Move away from the container and cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.
<b>Special protective equipment for fire fighters</b>	: Use self-contained breathing apparatus.
<b>Personal precautions</b>	: Evacuate area. Eliminate ignition sources. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
<b>Environmental precautions</b>	: Try to stop release.
<b>Clean up methods</b>	: Ventilate area.

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### 6 Accidental release measures

<b>Handling</b>	: Take precautionary measures against static discharge. Suck back of water into the container must be prevented. Purge air from system before introducing gas. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Refer to supplier's container handling instructions.
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### 7 Handling and storage

#### 7 Handling and storage (continued)

<b>Storage</b>	: Keep container below 50°C in a well ventilated place.
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### 8 Exposure controls/personal protection

Segregate from oxidant gases and other oxidants in store.

**Personal protection** : Ensure adequate ventilation.

Do not smoke while handling product.

Keep self contained breathing apparatus readily available for emergency use.

**Occupational Exposure Limits**

: Carbon monoxide : TLV<sup>©</sup> -TWA [ppm] : 25

# Carbon Monoxide

## 9 Physical and chemical properties

Physical state at 20 °C	: Gas.
Colour	: Colourless.
Odour	: No odour warning properties.
Molecular weight	: 28
Melting point [°C]	: -205
Boiling point [°C]	: -192
Critical temperature [°C]	: -140
Vapour pressure [20°C]	: Not applicable.
Relative density, gas (air=1)	: 1
Relative density, liquid (water=1)	: 0.79
Solubility in water [mg/l]	: 30
Flammability range [vol% in air]	: 10.9 to 74
Auto-ignition temperature [°C]	: 620

## 10 Stability and reactivity

Hazardous decomposition products	: None.
Incompatible materials	: Can form explosive mixture with air. May react violently with oxidants. Air, Oxidiser.
Conditions to avoid	: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

## 11 Toxicological information

Toxicity information	: Damage to red blood cells (haemolytic poison).
Rat inhalation LC50 [ppm/4h]	: 1880

## 12 Ecological information

## Carbon Monoxide

**Ecological effects information:** No known ecological damage caused by this product.

**Global warming potential [CO<sub>2</sub>=1]** : 1

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### 13 Disposal considerations

**General** : Avoid discharge to atmosphere.

Do not discharge into any place where its accumulation could be dangerous. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.

Contact supplier if guidance is required.

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### 14 Transport information

**UN number** : 1016  
**• Labelling ADR, IMDG, IATA** : 2.1 : flammable gas.  
2.3 : Toxic gas.

#### Land transport

**ADR/RID**  
**H.I. nr** : 263  
**UN proper shipping name** : CARBON MONOXIDE, COMPRESSED  
**Transport hazard class(es)** : 2  
**- ADR/RID Classification code** : 1 TF  
**- Packing Instruction(s) - General** : P200  
**- Tunnel Restriction** : B/D Tank carriage: Passage forbidden through tunnels of category B, C, D and E; Other carriage: Passage forbidden through tunnels of category D and E

#### Sea transport

**- IMO-IMDG code**  
**• Proper shipping name** : CARBON MONOXIDE, COMPRESSED  
**• Class** : 2.3  
**- IMO Packing group** : P200

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## Carbon Monoxide

- Emergency Schedule (EmS) - Fire : F-D
- Emergency Schedule (EmS) - Spillage : S-U
- Instructions - Packing : P200

### Air transport

- ICAO/IATA
- Proper shipping name : CARBON MONOXIDE, COMPRESSED
- Class : 2.3
- Passenger and Cargo Aircraft :
- Cargo Aircraft only :

Avoid transport on vehicles where the load space is not separated from the driver's compartment.

Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

### 14 Transport information (continued)

Before transporting product containers :

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.

### 15 Regulatory information

**Restrictions** : Restricted to professional users.

**Safety, health and environmental regulations/legislation specific for the substance or mixture** : Ensure all national/local regulations are observed.

**Seveso regulation 96/82/EC** : Listed

### 16 Other information

Ensure operators understand the flammability hazard.

Users of breathing apparatus must be trained.

Ensure operators understand the toxicity hazard.

**List of full text of R-phrases in section 3.** : R12 : Extremely flammable.

R23 : Toxic by inhalation.

R48/23 : Toxic : danger of serious damage to health by prolonged exposure through inhalation.

R61 : May cause harm to the unborn child.



## Carbon Monoxide

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

### **DISCLAIMER OF LIABILITY**

: Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

Details given in this document are believed to be correct at the time of going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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