



20/11/2014

CO₂ / Argon Mix Safety Data sheet

5%, 12% & 20% Mixes

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

1.1. Product identifier

Product name

5% CO₂ / Argon Mix12% CO₂ / Argon Mix20% CO₂ / Argon Mix

EC No (from EINECS): Mixture not applicable

CAS No: Mixture not applicable

Index-Nr. Mixture not applicable

Chemical formula Mixture of Ar, CO₂ and O₂.**REACH Registration number:** Not applicable, components are exempt from registration.

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

Industrial and professional. Perform risk assessment prior to use.

1.3. Details of the supplier of the safety data sheet

Company identification

Adams Gas, 2 Bath Road, Margate, Kent, CT9 1SL

E-Mail Address sales@adamsgas.co.uk

1.4. Emergency telephone number

Emergency phone numbers (24h): 01843 220596

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification acc. to Regulation (EC) No**1272/2008/EC****(CLP/GHS)**

Press. Gas (Compressed gas) - Contains gas under pressure; may explode if heated.

Classification acc. to Directive 67/548/EEC & 1999/45/EC

Not classified as hazardous to health.

Asphyxiant in high concentrations.

Risk advice to man and the environment

In high concentrations may cause asphyxiation.

Compressed gas.

2.2. Label elements

- Labelling Pictograms



- Signal word

Warning

- Hazard Statements

H280 Contains gas under pressure; may explode if heated.

EIGA-As Asphyxiant in high concentrations.

- Precautionary Statements

Precautionary Statement Prevention

None.

Precautionary Statement Response

None.

Precautionary Statement Storage

P403 Store in a well-ventilated place.

Precautionary Statement Disposal

None.

2.3. Other hazards

None.

SECTION 3: Composition/information on ingredients

Substance / Mixture: Mixture.

3.1. Substances

Not applicable.

3.2. Mixtures

	Mixture	Contents	CAS No.	EC No.	Reg No.	Classification
Carbon Dioxide	5% 12% 20%	5% 12% 20%	124-38-9	204-606-9	*1	Not classified as hazardous to health. Pressurised gas (H280)
Argon	5% 12% 20%	95% 88% 80%	7440-37-1	231-147-0	*1	Not classified as hazardous to health. Pressurised gas (H280)

*Listed in Annex IV/V of regulation (EC) No. 1907/2006 (REACH) exempted from registration

SECTION 4: First aid measures

4.1. Description of first aid measures

First Aid General Information:

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First Aid Inhalation:

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

First Aid Skin / Eye:

Adverse effects not expected from this product.

First Aid Ingestion:

Ingestion is not considered a potential route of exposure.

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

In high concentrations may cause asphyxiation.

Symptoms may include loss of mobility/consciousness.

Victim may not be aware of asphyxiation. Low concentrations of CO₂ cause increased respiration and headache.

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

None.

SECTION 5: Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media

All known extinguishants can be used.

5.2. Special hazards arising from the substance or mixture

Specific hazards

Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products

None.

5.3. Advice for fire-fighters

Specific methods

Move container away or cool with water from a protected position.

Special protective equipment for fire-fighters

Normal firefighters' equipment consists of an appropriate SCBA (open-circuit positive pressure compressed air type) in combination



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with fire kit. Equipment and clothing to the following standards will provide a suitable level of protection for firefighters.

Guideline:

EN 469:2005: Protective clothing for firefighters.

Performance requirements for protective clothing for firefighting., EN 137 Respiratory protective devices — Self-contained open-circuit compressed air breathing apparatus with full face mask —

Requirements, testing, marking., EN 15090 Footwear for firefighters., EN 443 Helmets for fire fighting in buildings and other structures., EN 659 Protective gloves for firefighters.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Only experienced and properly instructed persons should handle gases under pressure. The product must be handled in accordance with good industrial hygiene and safety procedures. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Ensure the complete gas system has been (or is regularly) checked for leaks before use. Refer to supplier's handling instructions. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Protect containers from physical damage; do not drag, roll, slide or drop. When moving containers, even for short distances, use appropriate equipment eg. trolley, hand truck, fork truck etc. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating container valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not smoke while

handling product. Do not remove or deface labels provided by the supplier for the identification of the container contents.

7.2. Conditions for safe storage, including any incompatibilities

Keep container below 50°C in a well ventilated place. Secure cylinders to prevent them from falling. Observe all regulations and local requirements regarding storage of containers. Stored containers should be periodically checked for general conditions and leakage. Container valve guards or caps should be in place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials. Cylinders should be stored in the vertical position and properly secured to prevent falling over. Containers should not be stored in conditions likely to encourage corrosion.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit value

Carbon dioxide

Value type value Note

Great Britain - STEL 15.000 ppm EH 40/07

Great Britain - LTEL 5.000 ppm EH 40/07

8.2. Exposure controls

Appropriate engineering controls

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered. Product to be handled in a closed system. Gas detectors should be used when harmful quantities may be released. Keep concentrations well below occupational exposure limits. Oxygen detectors should be used when asphyxiating gases may be released. The substance must be handled in accordance with good industrial hygiene and safety procedures. Consider work permit system e.g. for maintenance activities. Systems under pressure should be regularly checked for leakages. Provide adequate general or local ventilation

Personal protective equipment

Eye and face protection

Wear eye protection to EN 166 when using gases.

Guideline:

EN 166 Personal Eye Protection

Skin protection

Hand protection

Advice: Wear working gloves and safety shoes while handling containers.

Guideline: EN 388 Protective gloves

Body protection

No precautionary measures are necessary.

Other protection

Wear working gloves and safety shoes while handling containers.

EN ISO 20345 Personal protective equipment - Safety footwear.

Respiratory protection

Not required.



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Thermal hazards

No precautionary measures are necessary.

Environmental Exposure Controls

Specific risk management measures are not required beyond good industrial hygiene and safety procedures. Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General information

Appearance/Colour: Colourless gas.

Odour: None.

Odour threshold:

Mixture not applicable

Melting point: Mixture not applicable

Boiling point: Not known.

Flash point: Not applicable for gases and gas mixtures.

Flammability range: Mixture not applicable

Vapour Pressure 20 °C: Mixture not applicable

Solubility in water: Mixture not applicable

Partition coefficient: n-octanol/water: Mixture not applicable

Autoignition temperature: Mixture not applicable

Explosive properties:

Explosive acc. EU legislation: Not explosive.

Explosive acc. transp. reg.: Not explosive.

Oxidising properties: Not applicable.

Molecular weight: Not known.

Critical temperature: Mixture not applicable

Relative density, liquid (Water=1): Mixture not applicable

Relative density, gas (Air=1): Heavier than air.

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Unreactive under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

No reaction with common materials when dry. For material compatibility see latest version of ISO-11114.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General

High concentrations cause rapid circulatory insufficiency. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness.

In a confined space, displacement of air by Argoshield may cause the exposure limits to be exceeded before the oxygen level drops below 18%.

Acute toxicity

No data available.

Skin corrosion/irritation

No data available.

Serious eye damage/irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

Not applicable to gases and gas mixtures

SECTION 12: Ecological information

12.1. Toxicity

Contains CO₂ - When discharged in large quantities may contribute to the greenhouse effect.

12.2. Persistence and degradability

Not applicable.

12.3. Bioaccumulative potential

Not applicable.

12.4. Mobility in soil

The product is a gas, not applicable.

12.5. Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

12.6. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Do not discharge into any place where its accumulation could be dangerous. Vent to atmosphere in a well ventilated place. Discharge to atmosphere in large quantities should be avoided. Contact supplier if guidance is required. Gases in pressure containers excluding those, which are mentioned under 16 05 04

EWC Nr. 16 05 05

SECTION 14: Transport information

ADR/RID

14.1. UN number

1956

14.2. UN proper shipping name

Compressed Gas, N.O.S. (Argon, Carbon Dioxide)



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14.3. Transport hazard class(es)

Class: 2
Classification Code: 1A
Labels: 2.2
Hazard number: 20
Tunnel restriction code: (E)
Emergency Action Code: 2TE

14.4. Packing group (Packing Instruction)

P200

14.5. Environmental hazards

None.

14.6. Special precautions for user

None.

IMDG

14.1. UN number

1956

14.2. UN proper shipping name

Compressed Gas, N.O.S. (Argon, Carbon Dioxide)

14.3. Transport hazard class(es)

Class: 2.2
Labels: 2.2
EmS: F-C, S-V

14.4. Packing group (Packing Instruction)

P200

14.5. Environmental hazards

None.

14.6. Special precautions for user

None.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

IATA

14.1. UN number

1956

14.2. UN proper shipping name

Compressed Gas, N.O.S. (Argon, Carbon Dioxide)

14.3. Transport hazard class(es)

Class: 2.2
Labels: 2.2

14.4. Packing group (Packing Instruction)

P200

14.5. Environmental hazards

None.

14.6. Special precautions for user

None.

SECTION 15: Regulatory information

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

Other regulations

Management of Health and Safety at Work Regulations (1999 No. 3242)
The Regulatory Reform (Fire Safety) Order 2005 (2005 No. 1541)
Control of Substances Hazardous to Health Regulations (COSHH, 2002 No. 2677)
Provision and Use of Work Equipment Regulations (PUWER, 1998 No. 2306)
Personal Protective Equipment Regulations (1992 No. 2966)
Control of Major Accident Hazards Regulations (COMAH, 1999 No. 743)
Chemical Hazards Information and Packaging for Supply (CHIP, 1994 No. 3247)
Pressure Systems Safety Regulations (PER, 2000 No. 128)
This Safety Data Sheet has been produced to comply with Regulation (EU) 453/2010.

15.2. Chemical safety assessment

This product is either exempt from REACH, does not meet the minimum volume threshold for a CSR or the CSA has not yet been carried out.

SECTION 16: Other information

Ensure all national/local regulations are observed. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Advice

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.

Further information

Note:

When using this document care should be taken, as the decimal sign and its position complies with rules for the structure and drafting of international standards, and is a comma on the line.

As an example 2,000 is two (to three decimal places) and not two thousand, whilst 1.000 is one thousand and not one (to three decimal places).

References

Various sources of data have been used in the compilation of this SDS, they include but are not exclusive to:

Agency for Toxic Substances and Diseases Registry (ATSDR)

(<http://www.atsdr.cdc.gov/>)

European Chemical Agency: Guidance on the Compilation of Safety Data Sheets.

European Chemical Agency: Information on Registered Substances



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<http://apps.echa.europa.eu/registered/registered-sub.aspx#search>

European Industrial Gases Association (EIGA) Doc. 169/11

Classification and Labelling guide.

ISO 10156:2010 Gases and gas mixtures -- Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets.

International Programme on Chemical Safety

(<http://www.inchem.org/>)

Matheson Gas Data Book, 7th Edition.

National Institute for Standards and Technology (NIST) Standard

Reference Database Number 69

The ESIS (European chemical Substances 5 Information System) platform of the former European Chemicals Bureau (ECB) ESIS

(<http://ecb.jrc.ec.europa.eu/esis/>).

The European Chemical Industry Council (CEFIC)

ERICards.

United States of America's National Library of Medicine's toxicology

data network TOXNET

(<http://toxnet.nlm.nih.gov/index.html>)

Substance specific information from suppliers.

EH40 (as amended) Workplace exposure limits.

End of document