AL708 Lasal105 -4% Carbon Monoxide, 8% Carbon Dioxide, 28% Helium in Nitrogen

AL708

Danger

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

1.1. Product identifier

Trade name : AL708 Lasal105 -4% Carbon Monoxide, 8% Carbon Dioxide, 28% Helium in Nitrogen

SDS Nr : AL708

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

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use.
Test gas / Calibration gas. Laboratory use Contact supplier for more uses information

1.3. Details of the supplier of the safety data sheet

Company identification : Air Liquide Australia Limited
Level 9 / 380 St. Kilda Road
Melbourne VIC 3004 Australia
Tel: + 61 3 9697 9888
Fax: + 61 3 9690 7107
ALAEnquiries@AirLiquide.com

1.4. Emergency telephone number

Emergency telephone number : 1800 812 588

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

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

• Health hazards : Reproductive toxicity - Unborn Child - Category 1A - Danger - (CLP : Repr. 1A) - H360D
Specific Target Organ Toxicity - Repeated exposure - Category 2 - Warning - (CLP : STOT RE 2) - H373

• Physical hazards : Gases under pressure - Compressed gas - Warning - (CLP : Press. Gas) - H280

Classification EC 67/548 or EC 1999/45

: Repr. Cat. 1; R61
Xn; R20-48/20

2.2. Label elements

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms

• Hazard pictograms code : GHS08 - GHS04

• Signal word : Danger

• Hazard statements : H280 - Contains gas under pressure; may explode if heated.
H360D - May damage the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.

• Precautionary statements

- Prevention : P260 - Do not breathe gas, vapours.
P202 - Do not handle until all safety precautions have been read and understood.

- Response : P308+P313 - If exposed or concerned : get medical advice.

SECTION 2. Hazards identification (continued)

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

2.3. Other hazards

: Asphyxiant in high concentrations.

SECTION 3. Composition/information on ingredients

3.1. Substance / 3.2. Mixture

Mixture.

Substance name		Contents	CAS No	EC No	Annex No		Classification
Carbon monoxide	:	0.5 Between 4.99 %	630-08-0	211-128-3	006-001-00-2	01-2119480165-39	F+; R12 Repr. Cat. 1; R61 T; R23-48/23 --- Flam. Gas 1 (H220) Repr. 1A (H360D) Acute Tox. 3 (H331) STOT RE 1 (H372) Press. Gas (H280)
Carbon dioxide	:	<= 9 %	124-38-9	204-696-9	-----	* 1	Not classified (DSD/DPD) --- Liq. Gas (H280)
Helium	:	<= 31 %	7440-59-7	231-168-5	-----	* 1	Not classified (DSD/DPD) --- Press. Gas (H280)
Nitrogen	:	balance	7727-37-9	231-783-9	-----	*1	Not classified (DSD/DPD) --- Press. Gas (H280)

Contains no other components or impurities which will influence the classification of the product.
* 1: Listed in Annex IV / V REACH, exempted from registration.
* 2: Registration deadline not expired.
* 3: Registration not required: Substance manufactured or imported < 1t/y
Full text of R-phrases see chapter 16. Full text of H-statements see chapter 16

SECTION 4. First aid measures

4.1. Description of first aid measures

- 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.

- Skin contact : Adverse effects not expected from this product.

- Eye contact : Adverse effects not expected from this product.

- 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.
Refer to section 11.

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 that are more toxic than the product itself.

5.3. Advice for fire-fighters

Specific methods : Coordinate fire measure to the surrounding fire. Cool endangered containers with water spray jet from a protected position. Do not empty contaminated fire water into drains.
If possible, stop flow of product.

Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

: Evacuate area.
Try to stop release.
Ensure adequate air ventilation.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Monitor concentration of released product.

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

Safe use of the product : Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
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.
Do not smoke while handling product.
Ensure the complete gas system was (or is regularily) checked for leaks before use.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions.
Do not allow backfeed into the container.
Protect cylinders from physical damage; do not drag, roll, slide or drop.
When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.
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 cylinder 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 contaminates 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 cylinder/container to another.
Never use direct flame or electrical heating devices to raise the pressure of a container.
Do not remove or deface labels provided by the supplier for the identification of the cylinder

SECTION 7. Handling and storage (continued)

contents.

7.2. Conditions for safe storage, including any incompatibilities

: Keep away from combustible materials.
Keep container below 50°C in a well ventilated place.
Observe all regulations and local requirements regarding storage of containers.
Containers should not be stored in conditions likely to encourage corrosion.
Containers should be stored in the vertical position and properly secured to prevent toppling.
Stored containers should be periodically checked for general condition 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.

7.3. Specific end use(s)

: None.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Occupational Exposure Limits

Carbon monoxide

: TLV© -TWA [ppm] : 25
: ILV (EU) - 8 H - [ppm] : 20
: ILV (EU) - 15 min - [mg/m³] : 117
: ILV (EU) - 15 min - [ppm] : 100
: LTEL - UK [mg/m³] : 35
: LTEL - UK [ppm] : 30
: STEL - UK [mg/m³] : 232
: STEL - UK [ppm] : 200
: VME - France [mg/m³] : 55
: VME - France [ppm] : 50
: AGW (8h) - Germany [mg/m³] TRGS 900 : 35
: AGW (8h) - Germany [ppm] TRGS 900 : 30
: ILV (EU) - 8 H - [mg/m³] : 23
: Exceeding factor AGW - Germany TRGS 900 : 1
: MAK (AU) Tagesmittelwert (ml/m³) : 30
: MAK (AU) Tagesmittelwert (mg/m³) : 33
: MAK (AU) Kurzzeitwerte (ml/m³) : 60
: MAK (AU) Kurzzeitwerte (mg/m³) : 66
: VLA-ED - Spain [ppm] : 25
: VLA-ED - Spain [mg/m3] : 29
: NGV - [ppm] : 35
: NGV - [mg/m³] : 40
: KTV - [ppm] : 100
: KTV - [mg/m³] : 120
: Grænserværdier (DK) (ppm) : 25
: HTP-värden (FI) - 8 H - [ppm] : 30
: HTP-värden (FI) - 8 H - [mg/m³] : 35
: HTP-värden - 15min - [ppm] : 75
: Grænserværdier (DK) : 29
: HTP-värden - 15min - [mg/m³] : 87
: GV Value Limit (Norway) [ppm] : 25
: GV Value Limit (Norway) [mg/m³] : 29
: TGG 8 uur (NL) (mg/m3) : 29

SECTION 8. Exposure controls/personal protection (continued)

	: 8-Hour TWA (PL) (NDS) (mg/m³) : 30
	: 15-Minute STEL (PL)(NDSCh) (mg/m³) : 180
	: TLV-TWA (Belgium) (ppm) : 25
	: Value 8h (CZ) [mg/m3] : 30
	: Value 15min. (CZ) [mg/m3] : 150
Carbon dioxide	: Value 8h (CZ) [mg/m3] : 9000
	: ILV (EU) - 8 H - [mg/m³] : 9000
	: ILV (EU) - 8 H - [ppm] : 5000
	: TLV© -TWA [ppm] : 5000
	: TLV© -STEL [ppm] : 30000
	: AGW (8h) - Germany [mg/m³] TRGS 900 : 9100
	: AGW (8h) - Germany [ppm] TRGS 900 : 5000
	: MAK (AU) Tagesmittelwert (ml/m³) : 5000
	: MAK (AU) Tagesmittelwert (mg/m³) : 9000
	: MAK (AU) Kurzzeitwerte (ml/m³) : 10000
	: MAK (AU) Kurzzeitwerte (mg/m³) : 18000
	: VLA-ED - Spain [ppm] : 5000
	: VLA-ED - Spain [mg/m3] : 9150
	: VLA-EC - Spain [ppm] : 15000
	: VLA-EC - Spain [mg/m3] : 27400
	: NGV - [ppm] : 5000
	: NGV - [mg/m³] : 9000
	: KTV - [ppm] : 10
	: KTV - [mg/m³] : 10
	: HTP-värden (FI) - 8 H - [ppm] : 5000
	: HTP-värden (FI) - 8 H - [mg/m³] : 9100
	: Grænserværdier (DK) (ppm) : 5000
	: Grænserværdier (DK) (ppm) : 9000
	: Grænserværdier (DK) : 9000
	: GV Value Limit (Norway) [ppm] : 5000
	: GV Value Limit (Norway) [mg/m³] : 9000
	: 8-Hour TWA (PL) (NDS) (mg/m³) : 9000
	: 15-Minute STEL (PL)(NDSCh) (mg/m³) : 27000
	: Valori Limite di Soglia (IT) 8 ore [ppm] : 5000
	: Valori Limite di Soglia (IT) 8 ore [mg/m3] : 9000
	: TLV-TWA (Belgium) (ppm) : 5000
	: TLV-STEL (Belgium) (ppm) : 30000
	: Value 15min. (CZ) [mg/m3] : 45000
DNEL: Derived no effect level	: None available.
PNEC: Predicted no effect concentration	: None available.

8.2. Exposure controls

8.2.1. Appropriate engineering controls : Provide adequate general and local exhaust ventilation.
Ensure exposure is below occupational exposure limits (where available).
Product to be handled in a closed system and under strictly controlled conditions.
Preferably use only permanent leak-tight installations (e.g. welded pipes).
Alarm detectors should be used when toxic gases may be released.
Systems under pressure shoud be regularily checked for leakages.
Consider work permit system e.g. for maintenance activities.

8.2.2. Individual protection measures, e.g. personal protective equipment : 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.
Wear safety glasses with side shields

SECTION 8. Exposure controls/personal protection (continued)

Wear leather safety gloves and safety shoes when handling cylinders.

8.2.3. Environmental exposure controls : 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

Appearance

- Physical state at 20°C / 101.3kPa : Gas.

- Colour : Colourless gas.

Odour : Odourless.

Odour threshold : Odour threshold is subjective and inadequate to warn for overexposure.

pH value

Molar mass [g/mol] : Not applicable for gases and gas-mixtures.

Melting point [°C] : Not applicable for gas-mixtures.

Boiling point [°C]

Flash point [°C]

Evaporation rate (ether=1) : Not applicable for gas-mixtures.

Flammability range [vol% in air] : Not applicable for gas-mixtures.

Vapour pressure [20°C] :
Not applicable.

Relative density, gas (air=1) : Lighter or similar to air.

Solubility in water [mg/l] : Not known, but considered to have low solubility.

Partition coefficient n-octanol/water :
Not applicable for gas-mixtures.

Viscosity at 20°C [mPa.s] : Not applicable.

Explosive Properties : Not applicable.

9.2. Other information

Other data : None.

SECTION 10. Stability and reactivity

10.1. Reactivity

: No reactivity hazard other than the effects described in sub-sections below.

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

: None.

10.6. Hazardous decomposition products

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity	:	No known toxicological effects from this product.
Rat inhalation LC50 [ppm/4h]	:	• Carbon monoxide : 1880
Skin corrosion/irritation	:	No known effects from this product.
Serious eye damage/irritation	:	No known effects from this product.
Respiratory or skin sensitisation	:	No known effects from this product.
Carcinogenicity	:	No known effects from this product.
Germ cell mutagenicity	:	No known effects from this product.
Toxic for reproduction : Fertility	:	No known effects from this product.
Toxic for reproduction : unborn child	:	May cause harm to the unborn child.
STOT-single exposure	:	No known effects from this product.
STOT-repeated exposure	:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	:	Not applicable for gases and gas-mixtures.

SECTION 12. Ecological information

12.1. Toxicity

: No data available.

12.2. Persistence - degradability

: No data available.

12.3. Bioaccumulative potential

: No data available.

12.4. Mobility in soil

: No data available.

12.5. Results of PBT and vPvB assessment

: No data available.

12.6. Other adverse effects

Effect on ozone layer	:	None.
Effect on the global warming	:	Contains greenhouse gas(es) not covered by 842/2006/EC

SECTION 13. Disposal considerations

13.1. Waste treatment methods

: Ensure that the emission levels from local regulations or operating permits are not exceeded.

Avoid discharge to atmosphere.
Do not discharge into any place where its accumulation could be dangerous.
Refer to the code of practice of EIGA (Doc. 30/10 “Disposal of Gases, downloadable at http://www.eiga.org) for more guidance on suitable disposal methods
Contact supplier if guidance is required.

13.2. Additional information

: None.

SECTION 14. Transport information

UN number : 1956

Labelling ADR, IMDG, IATA

: 2.2 : Non flammable, non toxic gas.

Land transport (ADR/RID)

H.I. nr : 20

UN proper shipping name : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

Transport hazard class(es) : 2

Classification code : 1 A

Packing Instruction(s) : P200

Tunnel Restriction : E : Passage forbidden through tunnels of category E.

HAZCHEM - Emergency Action Code : 2TE
2 = Fine water spray.
T = Recommended personal protective equipment : Full fire kit and breathing apparatus.
Appropriate measures : dilute.
E = There may be a public safety hazard outside the immediate area of the incident, and that the following actions should be considered :
1. People should be warned to stay indoors with all doors and windows closed, preferably in rooms upstairs and facing away from the incident. Ignition sources should be eliminated and any ventilation stopped.
2. Effects may spread beyond the immediate vicinity. all non-essential personnel should be instructed to move at least 250 metres away from the incident.
3. Police and fire brigade incident commanders should consult each other and with a product expert, or with a source of product expertise.
4. The possible need for subsequent evacuation should be considered, but it should be remembered that in most cases it will be safer to remain in a building than to evacuate.

Sea transport (IMDG)

Proper shipping name : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

Class : 2.2

Emergency Schedule (EmS) - Fire : F-C

Emergency Schedule (EmS) - Spillage : S-V

Packing instruction : P200

Air transport (ICAO-TI / IATA-DGR)

Proper shipping name (IATA) : COMPRESSED GAS, N.O.S. (Nitrogen, Carbon monoxide)

Class : 2.2

Passenger and Cargo Aircraft : Allowed.

Packing instruction - Passenger and Cargo Aircraft : 200

Cargo Aircraft only : Allowed.

Packing instruction - Cargo Aircraft only : 200

Special precautions for user

: 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.
Before transporting product containers :
- Ensure there is adequate ventilation.
- 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.

SECTION 14. Transport information (continued)

SECTION 15. Regulatory information

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

EU legislation

Restrictions on use : Restricted to professional users (Annex XVII REACH).

Seveso directive 96/82/EC : Not covered.

National legislation

: Ensure all national/local regulations are observed.

15.2. Chemical Safety Assessment

: A CSA does not need to be carried out for this product.

SECTION 16. Other information

Indication of changes : Revised safety data sheet in accordance with commisssion regulation (EU) No 453/2010

Training advice : Receptacle under pressure.

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.

List of full text of H-statements in section 3. : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H331 - Toxic if inhaled.
H360D - May damage the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.

Further information : Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.
This Safety Data Sheet has been established in accordance with the applicable European Union legislation.

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