

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14**NOAL_1032**

Country : FI / Language : EN

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Trade name : Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14
SDS no : NOAL_1032

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

Relevant identified uses : Industrial and professional uses. Perform risk assessment prior to use.
Industrial and professional use for chemical analysis, calibration, (routine) quality control, laboratory use, under controlled conditions.
Contact supplier for more information on uses.

Uses advised against : Consumer use.
Uses other than those listed above are not supported, contact your supplier for more information on other uses.

1.3. Details of the supplier of the safety data sheet**Company identification****Supplier**

AIR LIQUIDE FINLAND OY
Yrtypellontie 1 C 3 krs.
90230 OULU - FINLAND
T +353 20 779 0580
info.finland@airliquide.com

E-Mail address (competent person) : eunordic-sds@airliquide.com

1.4. Emergency telephone number

Emergency telephone number : FI: Myrkytystietokeskus: 09-471 977 (suora) tai 09-4711 (vaihte) / EN: Poison Information Centre: 09-471 977 (direct) or 09-4711 (switchboard)
Availability
(24 / 7)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Physical hazards Gases under pressure : Compressed gas H280


2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS04

Signal word (CLP) : Warning
Hazard statements (CLP) : H280 - Contains gas under pressure; may explode if heated.

	SAFETY DATA SHEET	Page : 2/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

Precautionary statements (CLP)

- Storage : P403 - Store in a well-ventilated place.

2.3. Other hazards

Asphyxiant in high concentrations.
 In high concentrations CO₂ causes rapid circulatory insufficiency even at normal levels of oxygen concentration. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness and death.
 Not classified as PBT or vPvB.
 The substance/mixture has no endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not established.

3.2. Mixtures

Name	Product identifier	Composition [V-%]:	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Argon	CAS-No.: 7440-37-1 EC-No.: 231-147-0 EC Index-No.: --- REACH-no: *1	80	Press. Gas (Comp.), H280
Carbon dioxide	CAS-No.: 124-38-9 EC-No.: 204-696-9 EC Index-No.: --- REACH-no: *1	20	Press. Gas (Liq.), H280

Full text of H- and EUH-statements: see section 16

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

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

*3: Registration not required: Substance manufactured or imported < 1t/y.

SECTION 4: First aid measures

4.1. Description of first aid measures

- Inhalation : Allow affected person to breathe fresh air.
Allow the victim to rest.
Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
- Skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- Eye contact : Rinse immediately with plenty of water.
Obtain medical attention if pain, blinking or redness persists.
- Ingestion : Rinse mouth.
Do NOT induce vomiting.
Obtain emergency medical attention.
Ingestion is not considered a potential route of exposure.

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14**NOAL_1032**

Country : FI / Language : EN

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.
See section 11.

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

None.

SECTION 5: Firefighting measures**5.1. Extinguishing media**

- Suitable extinguishing media : Foam.
Dry powder.
Carbon dioxide.
Water spray.
Sand.
Product does not burn, use fire control measures appropriate for the surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.
Do not use water jet to extinguish.

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 firefighters

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
If possible, stop flow of product.
Use water spray or fog to knock down fire fumes if possible.
Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.
Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel : Act in accordance with local emergency plan.
Evacuate unnecessary personnel
Try to stop release.
Evacuate area.
Ensure adequate air ventilation.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Stay upwind.
See section 8 of the SDS for more information on personal protective equipment

	SAFETY DATA SHEET	Page : 4/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

For emergency responders

: Ventilate area
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Oxygen detectors should be used when asphyxiating gases may be released.
See section 5.3 of the SDS for more information.

6.2. Environmental precautions

Prevent entry to sewers and public waters.
Notify authorities if liquid enters sewers or public waters.
Try to stop release.

6.3. Methods and material for containment and cleaning up

Ventilate area.

6.4. Reference to other sections

See Section 8.
Exposure controls and personal protection.
See also sections 8 and 13.

SECTION 7: Handling and storage


7.1. Precautions for safe handling

Safe use of the product

: Do not breathe gas.
Avoid release of product into atmosphere.
The product must be handled in accordance with good industrial hygiene and safety procedures.
Only experienced and properly instructed persons should handle gases under pressure.
Consider pressure relief device(s) in gas installations.
Ensure the complete gas system was (or is regularly) checked for leaks before use.
Do not smoke while handling product.
Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Avoid suck back of water, acid and alkalis.

Safe handling of the gas receptacle

: Refer to supplier's container handling instructions.
Do not allow backfeed into the container.
Protect containers 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 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 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 content of the container.
Suck back of water into the container must be prevented.
Open valve slowly to avoid pressure shock.

	SAFETY DATA SHEET	Page : 5/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Carbon dioxide (124-38-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Carbon dioxide
IOEL TWA	9000 mg/m ³
IOEL TWA [ppm]	5000 ppm
Austria - Occupational Exposure Limits	
Local name	Kohlenstoffdioxid
MAK (mg/m ³)	9000 mg/m ³
MAK (OEL TWA) [ppm]	5000 ppm
MAK (OEL STEL)	18000 mg/m ³
MAK (OEL STEL) [ppm]	10000 ppm
Belgium - Occupational Exposure Limits	
Local name	Carbone (dioxyde de) # Koolstofdioxide
OEL TWA	9131 mg/m ³
OEL TWA [ppm]	5000 ppm
OEL STEL	54784 mg/m ³
OEL STEL [ppm]	30000 ppm
Remark	A: La mention A signifie que l'agent libère un gaz ou une vapeur qui n'ont en eux-mêmes aucun effet physiologique mais peuvent diminuer le taux d'oxygène dans l'air. Lorsque le taux d'oxygène descend en dessous de 17-18 % (vol/vol) le manque d'oxygène provoque des suffocations qu'aucun symptôme préalable n'annonce. # De vermelding A betekent dat dit agens gas of damp vrijgeeft dat of die op zich geen fysiologische werking heeft, maar het zuurstofgehalte in de lucht verlaagt. Wanneer het zuurstofgehalte daalt onder de 17-18 % (vol/vol), veroorzaakt het zuurstoftekort verstikking, die zich manifesteert zonder dat er een waarschuwing aan voorafgaat.

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14

NOAL_1032

Country : FI / Language : EN

Bulgaria - Occupational Exposure Limits

Local name	Въглероден диоксид
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm
Remark	• (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)

Croatia - Occupational Exposure Limits

Local name	Ugljikov dioksid
GVI (OEL TWA) [1]	9000 mg/m ³
GVI (OEL TWA) [2]	5000 ppm
Remark	EU**

Czech Republic - Occupational Exposure Limits

Local name	Oxid uhli itý
PEL (OEL TWA)	9000 mg/m ³
PEL (OEL TWA) [ppm]	5000 ppm
NPK-P (OEL C)	45000 mg/m ³
NPK-P (OEL C) [ppm]	25020 ppm

Denmark - Occupational Exposure Limits

Local name	Carbondioxid (Kuldioxid; Kulsyre)
OEL TWA [1]	9000 mg/m ³
OEL TWA [2]	5000 ppm

Estonia - Occupational Exposure Limits

Local name	Süsinikdioksiid
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Finland - Occupational Exposure Limits

Local name	Hilidioksidi
HTP (OEL TWA) [1]	9100 mg/m ³
HTP (OEL TWA) [2]	5000 ppm

France - Occupational Exposure Limits

Local name	Dioxyde de carbone
VME (OEL TWA)	9000 mg/m ³
VME (OEL TWA) [ppm]	5000 ppm
Remark	Valeurs réglementaires indicatives

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14

NOAL_1032

Country : FI / Language : EN

Germany - Occupational Exposure Limits (TRGS 900)

Local name	Kohlenstoffdioxid
AGW (OEL TWA) [1]	9100 mg/m ³
AGW (OEL TWA) [2]	5000 ppm
Remark	DFG,EU

Greece - Occupational Exposure Limits

OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm
OEL STEL	54000 mg/m ³

Hungary - Occupational Exposure Limits

Local name	SZÉN-DIOXID
AK (OEL TWA)	9000 mg/m ³

Ireland - Occupational Exposure Limits

Local name	Carbon dioxide
OEL TWA [1]	9000 mg/m ³
OEL TWA [2]	5000 ppm
OEL STEL	27000 mg/m ³
OEL STEL [ppm]	15000 ppm

Italy - Occupational Exposure Limits

Local name	Anidride carbonica
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Latvia - Occupational Exposure Limits

Local name	Oglekļadioksīds
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Lithuania - Occupational Exposure Limits

Local name	Anglies dioksidas
IPRV (OEL TWA)	9000 mg/m ³
IPRV (OEL TWA) [ppm]	5000 ppm

Luxembourg - Occupational Exposure Limits

Local name	Dioxyde de carbone
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14

NOAL_1032

Country : FI / Language : EN

Malta - Occupational Exposure Limits

Local name	Carbondioxide
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Netherlands - Occupational Exposure Limits

Local name	Kooldioxide
TGG-8u (OEL TWA)	9000 mg/m ³

Poland - Occupational Exposure Limits

Local name	Ditlenek węgla 7
NDS (OEL TWA)	9000 mg/m ³
NDSCh (OEL STEL)	27000 mg/m ³

Portugal - Occupational Exposure Limits

Local name	Dióxido de carbono
OEL TWA [ppm]	5000 ppm
OEL STEL [ppm]	30000 ppm

Romania - Occupational Exposure Limits

Local name	Bioxid de carbon
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Slovenia - Occupational Exposure Limits

Local name	ogljikov dioksid
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm

Spain - Occupational Exposure Limits

Local name	Dióxido de carbono
VLA-ED (OEL TWA) [1]	9150 mg/m ³
VLA-ED (OEL TWA) [2]	5000 ppm

Remark	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
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Sweden - Occupational Exposure Limits

Local name	Koldioxid
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Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14


NOAL_1032

Country : FI / Language : EN

NGV (OEL TWA)	9000 mg/m ³
NGV (OEL TWA) [ppm]	5000 ppm
KTV (OEL STEL)	18000 mg/m ³
KTV (OEL STEL) [ppm]	10000 ppm
United Kingdom - Occupational Exposure Limits	
Local name	Carbon dioxide
WEL TWA (OEL TWA) [1]	9150 mg/m ³
WEL TWA (OEL TWA) [2]	5000 ppm
WEL STEL (OEL STEL)	27400 mg/m ³
WEL STEL (OEL STEL) [ppm]	15000 ppm
Iceland - Occupational Exposure Limits	
Local name	Koldíoxíð (koltvísýringur, kolsýra)
OEL TWA	9000 mg/m ³
OEL TWA [ppm]	5000 ppm
Norway - Occupational Exposure Limits	
Local name	Karbondioksid
Grenseverdi (OEL TWA) [1]	9000 mg/m ³
Grenseverdi (OEL TWA) [2]	5000 ppm
Switzerland - Occupational Exposure Limits	
Local name	Kohlendioxid
MAK (OEL TWA) [1]	9000 mg/m ³
MAK (OEL TWA) [2]	5000 ppm
Remark	Asphyxie - NIOSH
USA - ACGIH - Occupational Exposure Limits	
Local name	Carbon dioxide
ACGIH OEL TWA [ppm]	5000 ppm
ACGIH OEL STEL [ppm]	30000 ppm
Remark (ACGIH)	Asphyxia

DNEL (Derived-No Effect Level) : None available.

PNEC (Predicted No-Effect Concentration) : None available.

	SAFETY DATA SHEET	Page : 10/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation.
Systems under pressure should be regularly checked for leakages.
Ensure exposure is below occupational exposure limits (where available).
Oxygen detectors should be used when asphyxiating gases may be released.
Consider the use of a 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:

- Eye/face protection : PPE compliant to the recommended EN/ISO standards should be selected.
: Chemical goggles or safety glasses.
Standard EN 166 - Personal eye-protection - specifications.
- Skin protection :
- Hand protection : Wear working gloves when handling gas containers.
Wear protective gloves.
Standard EN 388 - Protective gloves against mechanical risk, performance level 1 or higher.
- Other : Do not eat, drink or smoke during use.
Wear safety shoes while handling containers.
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- Respiratory protection : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.
Wear appropriate mask.
Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD.
Gas filters do not protect against oxygen deficiency.
Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
- Thermal hazards : None in addition to the above sections.

8.2.3. Environmental exposure controls

None necessary.

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
- Odour : characteristic
Odour threshold is subjective and inadequate to warn of overexposure.
- pH : Not applicable for gases and gas mixtures.
- Melting point / Freezing point : Not applicable for gas mixtures.
- Boiling point : Not applicable for gas mixtures.

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14**NOAL_1032**

Country : FI / Language : EN

Flash point	: Not applicable for gases and gas mixtures.
Flammability	: Non flammable.
Explosive limits	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Vapour pressure [20°C]	: Not applicable.
Vapour pressure [50°C]	: Not applicable.
Density	: Not applicable
Vapour density	: Not applicable for gases and gas mixtures.
Relative density, liquid (water=1)	: Not applicable
Relative density, gas (air=1)	: Heavier than air.
Water solubility	: Solubility in water of component(s) of the mixture : • Argon: 67.3 mg/l • Carbon dioxide: 2000 mg/l Completely soluble.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable for gas mixtures.
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.
Viscosity, kinematic	: No reliable data available.
Particle characteristics	: Not applicable for gases and gas mixtures.

9.2. Other information**9.2.1. Information with regard to physical hazard classes**

Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.

9.2.2. Other safety characteristics

Molar mass	: Not applicable for gas mixtures.
Evaporation rate	: Not applicable for gases and gas mixtures.
Other data	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

None under normal use.

Reactivity : None.

10.4. Conditions to avoid

Avoid moisture in installation systems.

10.5. Incompatible materials

For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition productsfume.
Carbon monoxide.
Carbon dioxide.

Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14**NOAL_1032**

Country : FI / Language : EN

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity	: Toxicological effects not expected from this product if occupational exposure limit values are not exceeded. Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO ₂ has been found to act synergistically to increase the toxicity of certain other gases (CO, NO ₂). CO ₂ has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems. For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at www.eiga.eu .
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.
Germ cell mutagenicity	: No known effects from this product.
Carcinogenicity	: No known effects from this product.
Toxic for reproduction : Fertility	: No known effects from this product.
Toxic for reproduction : unborn child	: No known effects from this product.
STOT-single exposure	: No known effects from this product.
STOT-repeated exposure	: No known effects from this product.
Aspiration hazard	: Not applicable for gases and gas mixtures.

11.2. Information on other hazards

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Other information	: For more information, see 'EIGA Safety Info 24: Carbon Dioxide, Physiological Hazards' at www.eiga.eu . Unlike simple asphyxiants, carbon dioxide has the ability to cause death even when normal oxygen levels (20-21%) are maintained. 5% CO ₂ has been found to act synergistically to increase the toxicity of certain other gases (CO, NO ₂). CO ₂ has been shown to enhance the production of carboxy- or met-hemoglobin by these gases possibly due to carbon dioxide's stimulatory effects on the respiratory and circulatory systems. The substance/mixture has no endocrine disrupting properties.

SECTION 12: Ecological information**12.1. Toxicity**

Assessment	: No ecological damage caused by this product.
EC50 48h - Daphnia magna [mg/l]	: No data available.
EC50 72h - Algae [mg/l]	: No data available.
LC50 96 h - Fish [mg/l]	: No data available.

12.2. Persistence and degradability


Assessment	: Not established.
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12.3. Bioaccumulative potential

Assessment	: Not established.
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12.4. Mobility in soil

Assessment	: Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.
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	SAFETY DATA SHEET	Page : 13/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

The substance/mixture has no endocrine disrupting properties.

12.7. Other adverse effects

Other adverse effects : No known effects from this product.
 Effect on the ozone layer : None.
 Effect on global warming : Contains greenhouse gas(es).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

May be vented to atmosphere in a well ventilated place.
 Do not discharge into any place where its accumulation could be dangerous.
 Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 05 : Gases in pressure containers other than those mentioned in 16 05 04.

13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

SECTION 14: Transport information

14.1. UN number or ID number

In accordance with ADR / RID / IMDG / IATA / ADN
 UN-No. : 1956

14.2. UN proper shipping name

Transport by road/rail (ADR/RID) : COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)
Transport by air (ICAO-TI / IATA-DGR) : Compressed gas, n.o.s. (Argon, Carbon dioxide)
Transport by sea (IMDG) : COMPRESSED GAS, N.O.S. (Argon, Carbon dioxide)

14.3. Transport hazard class(es)

Labelling :



2.2 : Non-flammable, non-toxic gases.

Transport by road/rail (ADR/RID)


Class : 2
 Classification code : 1A
 Hazard identification number : 20
 Tunnel Restriction : E - Passage forbidden through tunnels of category E

Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) : 2.2

Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) : 2.2
 Emergency Schedule (EmS) - Fire : F-C
 Emergency Schedule (EmS) - Spillage : S-V

	SAFETY DATA SHEET	Page : 14/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

14.4. Packing group

Transport by road/rail (ADR/RID) : Not established.
 Transport by air (ICAO-TI / IATA-DGR) : Not established.
 Transport by sea (IMDG) : Not established.

14.5. Environmental hazards

Transport by road/rail (ADR/RID) : None.
 Transport by air (ICAO-TI / IATA-DGR) : None.
 Transport by sea (IMDG) : None.

14.6. Special precautions for user

Packing Instruction(s)

Transport by road/rail (ADR/RID) : P200
 Transport by air (ICAO-TI / IATA-DGR)
 Passenger and Cargo Aircraft : 200.
 Cargo Aircraft only : 200.
 Transport by sea (IMDG) : P200

Special transport precautions : 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 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.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

EU-Regulations

Restrictions on use : None.
 Contains no substance(s) listed on the REACH Candidate List
 National legislation : Ensure all national/local regulations are observed.
 Seveso Directive : 2012/18/EU (Seveso III) : Not covered.


National regulations

Ensure all national/local regulations are observed.

France	
Occupational diseases	
Code	Description
RG 66	Occupational rhinitis and asthma

Germany

Water hazard class (WGK) : WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1)

	SAFETY DATA SHEET	Page : 15/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

National Rules and Recommendations : [German regulations] BetriebssicherheitsV mit TRBSen insbesondere TRBS 3145 / TRGS 725 Ortsbewegliche Druckgasbehälter", TRBS 2141, BGR Regel 500 Teil 2.33: "Umgang mit Gasen", GefahrstoffV mit Technischen Regeln Gefährliche Stoffe TRGS insbesondere TRGS 407 "Tätigkeiten mit Gasen - Gefährdungsbeurteilung", TRGS 400, 500, 510, 900."

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed
 SZW-lijst van mutagene stoffen : None of the components are listed
 SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
 SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
 SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Switzerland

Storage class (LK) : LK 2 - Liquefied or pressurized gases

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.


SECTION 16: Other information

Indication of changes : Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Abbreviations and acronyms : ATE - Acute Toxicity Estimate
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
 EINECS - European Inventory of Existing Commercial Chemical Substances
 CAS# - Chemical Abstract Service number
 PPE - Personal Protection Equipment
 LC50 - Lethal Concentration to 50 % of a test population
 RMM - Risk Management Measures
 PBT - Persistent, Bioaccumulative and Toxic
 vPvB - Very Persistent and Very Bioaccumulative
 STOT- SE : Specific Target Organ Toxicity - Single Exposure
 CSA - Chemical Safety Assessment
 EN - European Standard
 UN - United Nations
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
 IATA - International Air Transport Association
 IMDG code - International Maritime Dangerous Goods
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
 WGK - Water Hazard Class
 STOT - RE : Specific Target Organ Toxicity - Repeated Exposure
 UFI : Unique Formula Identifier

Training advice : The hazard of asphyxiation is often overlooked and must be stressed during operator training.
 For more guidance, refer to EIGA SL 01 "Dangers of Asphyxiation", downloadable at <http://www.eiga.eu..>

	SAFETY DATA SHEET	Page : 16/16
		Revised edition no : 3.0
		Revision date : 2023-01-23
		Supersedes version of : 2020-07-24
Gasmixture 2-20% in Argon, Arcal Force, Arcal 5, Atal, Albee Weld ArMix, Arcal MAG, Arcal Speed, Arcal 21, Arcal Chrome, Arcal 14		NOAL_1032
		Country : FI / Language : EN

Further information : Classification using data from databases maintained by the European Industrial Gases Association (EIGA). Data is maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at : <http://www.eiga.eu>.
Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP).

Full text of H- and EUH-statements	
H280	Contains gas under pressure; may explode if heated.
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

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

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