

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SDS\_Ind.Mix\_194

# Heliplus 310

1.1. Product identifier	
Product form	: Mixture
Trade name	: Heliplus 310
SDS code	: SDS_Ind.Mix_194
Internal reference no.	: 001792
1.2. Relevant identified uses of t	the substance or mixture and uses advised against
Relevant identified uses	· Industrial and professional Perform risk assessment prior to use

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

Relevant identified uses	Shield gas for welding processes. Contact supplier for more information on uses.
Uses advised against	: Consumer use.
1.3. Details of the supplier of the sat	fety data sheet
Company identification	: Sapio Produzione Idrogeno Ossigeno Srl Via S. Pellico, 48 20900 Monza - ITALIA +39 039 83981   +39 039 836068 http://www.sapio.it/ sds@sapio.it
1.4. Emergency telephone number	
Emergency telephone number	: +39 0295705444 (24/7)

SECTION 2: Hazards ide	entification		
2.1. Classification of the subs	stance or mixture		
Classification according to Regul	ation (EC) No. 1272/2008 [CLP]		
Physical hazards	Gases under pressure: Compressed gas	H280	
2.2. Label elements			
Labelling according to Regulation	n (EC) No. 1272/2008 [CLP]		
Hazard pictograms (CLP)	GHS04		
Signal word (CLP)	: Warning		
Hazard statements (CLP)	: H280 - Contains gas under pres	sure; may explode if heated.	
Precautionary statements (CLP) - Storage : P403 - Store in a well-ventilated place.			
2.3. Other hazards			

Other hazards not contributing to the classification

: Asphyxiant in high concentrations.

### **SECTION 3: Composition/information on ingredients**

### 3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Argon	CAS-No.: 7440-37-1 EC-No.: 231-147-0 EC Index-No.: Registration-No.: *1	60	Press. Gas (Comp.), H280
Helium	CAS-No.: 7440-59-7 EC-No.: 231-168-5 EC Index-No.: Registration-No.: *1	30	Press. Gas (Comp.), H280
Carbon dioxide	CAS-No.: 124-38-9 EC-No.: 204-696-9 EC Index-No.: Registration-No.: *1	10	Press. Gas (Liq.), H280

Full text of H-statements: see section 16



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- 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.

SECTION 4: First aid	neasures
4.1. Description of first aid	measures
- Inhalation	<ul> <li>Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.</li> </ul>
- 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 sympto	ms 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. Symptoms may include loss of mobility/consciou 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: Firefighting measures	
5.1. Extinguishing media	
- Suitable extinguishing media	: Water spray or fog.
- Unsuitable extinguishing media	: Do not use water jet to extinguish.
5.2. Special hazards arising from the subst	ance or mixture
Specific hazards	: Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	: None.
5.3. Advice for firefighters	
Specific methods	<ul> <li>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.</li> <li>If possible, stop flow of product.</li> <li>Use water spray or fog to knock down fire fumes if possible.</li> <li>Move containers away from the fire area if this can be done without risk.</li> </ul>
Special protective equipment for fire fighters	<ul> <li>In confined space use self-contained breathing apparatus.</li> <li>Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.</li> <li>Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.</li> <li>Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.</li> </ul>

SECTION 6: Accidental release measures		
6.1. Personal precautions, protective equipme	ent and emergency procedures	
	Try to stop release. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Act in accordance with local emergency plan. Stay upwind. Oxygen detectors should be used when asphyxiating gases may be released.	
6.2. Environmental precautions		
	Try to stop release.	
6.3. Methods and material for containment and	d cleaning up	
	Ventilate area.	
6.4. Reference to other sections		
	See also sections 8 and 13.	
SECTION 7: Handling and storage		

SECTION 7. Handling and Stora	iye		
7.1. Precautions for safe handling			
Safe use of the product	•	in accordance with good industrial hygiene and safety procedure y instructed persons should handle gases under pressure.	¥S.
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	Consider pressure relief device(s) in gas installations.
	Ensure the complete gas system was (or is regularily) 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.
	Do not breathe gas.
	Avoid release of product into atmosphere.
Safe handling of the gas receptacle	: Do not allow backfeed into the container.
	Protect receptacles from physical damage; do not drag, roll, slide or drop.
	When moving receptacles, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport receptacles.
	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 receptacle 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 remove or deface labels provided by the supplier for the identification of the receptacle contents.
	Suck back of water into the container must be prevented.
	Open valve slowly to avoid pressure shock.
7.2. Conditions for safe storage, include	ding 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)	
OEL : Occupational Ex	posure Limits	
	ACGIH TWA (ppm)	5000 ppm
ACGIH	ACGIH STEL (ppm)	30000 ppm
	Remark (ACGIH)	Asphyxia
	Regulatory reference	ACGIH 2017
Italy	TWA (IT) OEL 8h [mg/m <sup>3</sup> ]	9000 mg/m <sup>3</sup>
	TWA (IT) OEL 8h [ppm]	5000 ppm
Regulatory reference		Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.

DNEL (Derived-No Effect Level)

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None available.
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PNEC (Predicted No-Effect Concentration) 8.2. Exposure controls

8.2.1. Appropriate engineering controls		
		Provide adequate general and local exhaust ventilation.
		Systems under pressure should be regularily 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. p	oers	onal 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:
		PPE compliant to the recommended EN/ISO standards should be selected.
Eye/face protection	:	Wear safety glasses with side shields.
		Standard EN 166 - Personal eye-protection - specifications.
Skin protection		
- Hand protection	:	Wear working gloves when handling gas containers.



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Standard EN 388 - Protective gloves against mechanical risk.		
- Other	: 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.	
	Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.	
	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 full face mask - EN 136.	
	Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.	
Thermal hazards	: None in addition to the above sections.	
8.2.3. Environmental exposure contr	rols	

None necessary.

9.1. Information on basic physical and che	mical properties
Appearance	
Physical state at 20°C / 101.3kPa	: Gas
Colour	. Mixture contains one or more component(s) which have the following colour(s): Colourless.
Ddour	: Odourless.
Ddour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
рН	: Not applicable for gases and gas mixtures.
Melting point / Freezing point	: Not applicable for gas mixtures.
Boiling point	: Not applicable for gas mixtures.
Flash point	: Not applicable for gases and gas mixtures.
Evaporation rate	: Not applicable for gases and gas mixtures.
Flammability (solid, gas)	: Non flammable.
Explosive limits	: Non flammable.
/apour pressure [20°C]	: Not applicable.
/apour pressure [50°C]	: Not applicable.
/apour density	: Not applicable.
Relative density, gas (air=1)	: Lighter or similar to air.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable for gas mixtures.
Auto-ignition temperature	: Non flammable.
Decomposition temperature	: Not applicable.
/iscosity	: No reliable data available.
Explosive properties	: Not applicable.

9.2. Other information

Oxidising properties

Molar mass

: Not applicable for gas mixtures.

: Not applicable.

Other data : None.

### **SECTION 10: Stability and reactivity** 10 1 D

10.1. Reactivity			
	No reactivity hazard other than	the effects described in sub-sections below.	
10.2. Chemical stability			
	Stable under normal condition		
10.3. Possibility of hazardous reactions			
	None.		
10.4. Conditions to avoid			
	Avoid moisture in installation s	/stems.	
10.5. Incompatible materials			
	None. For additional information on c	ompatibility refer to ISO 11114.	
10.6. Hazardous decomposition products			
	Under normal conditions of sto	rage and use, hazardous decomposition products should not	be produced.
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SECTION 11: Toxicolo	

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% CO2 has been found to act synergistically to increase the toxicity of certain other gases (CO, NO2). CO2 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.

SECTION 12: Ecological information	
12.1. Toxicity	
Assessment	: No ecological damage caused by this product.
EC50 48h - Daphnia magna	: No data available.
EC50 72h - Algae	: No data available.
LC50 96 h - Fish	: No data available.
12.2. Persistence and degradability	
Assessment	: No ecological damage caused by this product.
12.3. Bioaccumulative potential	
Assessment	: No data available.
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.
12.5. Results of PBT and vPvB assessment	
Assessment	: Not classified as PBT or vPvB.
12.6. 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 consideration	ns
13.1. Waste treatment methods	
List of hazardous waste codes (from Commission Decision 2001/118/EC)	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 receptacle to supplier. : 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	



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14.1. UN number	
UN-No.	: 1956
14.2. UN proper shipping name	
Transport by road/rail (ADR/RID)	COMPRESSED GAS, N.O.S. (Argon, Helium)
Transport by air (ICAO-TI / IATA-DGR)	: Compressed gas, n.o.s. (Argon, Helium)
Transport by sea (IMDG)	COMPRESSED GAS, N.O.S. (Argon, Helium)
14.3. Transport hazard class(es) Labelling	
Labening	
Transport by road/rail (ADR/RID)	2.2 : Non-flammable, non-toxic gases.
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
14.4. Packing group	
Transport by road/rail (ADR/RID)	: Not applicable
Transport by air (ICAO-TI / IATA-DGR)	: Not applicable
Transport by sea (IMDG)	: Not applicable
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 container 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. Transport in bulk according to Ani	nex II of MARPOL 73/78 and the IBC Code
	Not applicable.

Not applicable.

## SECTION 15: Regulatory information

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

### **EU-Regulations**

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Restrictions on use	: None.
Seveso Directive : 2012/18/EU (Seveso III)	: Not covered.
National regulations	
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	
ndication of changes	: Revised safety data sheet in accordance with commission regulation (EU) No 453/2010.
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
	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
Fraining 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
Further information	: Classification using data from databases maintained by the European Industrial Gases Association (EIGA)

Full wording of relevant H Statements and classification codes

Press. Gas (Comp.)	Gases under pressure: Compressed gas
Press. Gas (Liq.)	Gases under pressure: Liquefied gas
H280	Contains gas under pressure; may explode if heated.

DISCLAIMER OF LIABILITY

: 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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