

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

IG 541

Version number: 4.0
Replaces version of: 2014-09-19 (3)

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

1.1 Product identifier

Trade name IG 541
CAS number Not relevant (mixture)

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

Relevant identified uses Fire extinguishing agent

1.3 Details of the supplier of the safety data sheet

Minimax GmbH Telephone: +49 (0) 4531 - 803 0
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23840 Bad Oldesloe Website: www.minimax.de
Germany

e-mail (competent person) sdb@csb-compliance.com

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact Minimax GmbH.

1.4 Emergency telephone number

Emergency information Consultank GmbH +49 (0) 178 433 7434

As above or nearest toxicological information centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.5	gas under pressure	C	Press. Gas C	H280

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Contains gas under pressure; may explode if heated.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word warning

Pictograms

GHS04



Hazard statements

H280 Contains gas under pressure; may explode if heated.

Precautionary statements

P410 Protect from sunlight.

2.3 Other hazards

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Endocrine disrupting properties

None of the ingredients are listed.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

Description of the mixture

Hazardous ingredients					
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
nitrogen	CAS No 7727-37-9 EC No 231-783-9	52	Press. Gas C / H280		U(b)
argon	CAS No 7440-37-1 EC No 231-147-0	40	Press. Gas C / H280		U(b)
carbon dioxide	CAS No 124-38-9 EC No 204-696-9	8	Press. Gas C / H280		IOELV U(b)

Notes

IOELV: Substance with a community indicative occupational exposure limit value

U(b): The allocation to the group 'compressed gas' is based on the physical state in which the gas is packaged

For full text of H-phrases: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Remove victim out of the danger area. In case of inadequate ventilation wear respiratory protection (Self-contained breathing apparatus (EN 133)).

In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.

Following skin contact

Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Following eye contact

Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Following ingestion

Get medical advice/attention if you feel unwell.

Notes for the doctor

None.

4.2 Most important symptoms and effects, both acute and delayed

Vertigo.

Disorientation.

Unconsciousness.

Asphyxiant gas, may displace oxygen and cause rapid suffocation.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate firefighting measures to the fire surroundings

5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

Contact with the product can cause burns and/or frostbite.

Contains gas under pressure; may explode if heated.

5.3 Advice for firefighters

Non-combustible.

In case of fire and/or explosion do not breathe fumes.

Special protective equipment for firefighters

Use suitable breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

Self-contained breathing apparatus (EN 133).

6.2 Environmental precautions

Not required.

6.3 Methods and material for containment and cleaning up

Advice on how to clean up a spill

Not applicable.

Other information relating to spills and releases

Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not breathe gas.

Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Specific notes/details

None.

Measures to protect the environment

Refer to manufacturer/supplier for information on recovery/recycling.

Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

7.2 Conditions for safe storage, including any incompatibilities

Flammability hazards

None.

Incompatible substances or mixtures

Incompatible materials: see section 10.

Protect against external exposure, such as

heat

Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

Ventilation requirements

Provision of sufficient ventilation.

Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
EU	carbon dioxide	124-38-9	IOELV	5,000	9,000	-	-	-	2006/15/EC

Notation

STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Appropriate engineering controls

Use local and general ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Not required.

Hand protection

Wear suitable gloves.

Protect against external exposure, such as Cold.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Self-contained breathing apparatus (EN 133).

Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	gaseous (compressed)
Colour	colourless
Odour	odourless
Melting point/freezing point	not applicable
Boiling point or initial boiling point and boiling range	not determined

Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined
Viscosity	not relevant (gaseous)
Solubility(ies)	
Water solubility	not miscible in any proportion
Partition coefficient n-octanol/water (log value)	not relevant (inorganic)
Vapour pressure	not determined
Density and/or relative density	
Density	not determined
Relative vapour density	this information is not available
Particle characteristics	not relevant (gaseous)

9.2 Other information

Information with regard to physical hazard classes	there is no additional information
Other safety characteristics	there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

If heated:

Gas under pressure. Danger of bursting container.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Contains gas under pressure; may explode if heated.

10.5 Incompatible materials

bases, amine, alkali metal, alkaline earth metal, metal as dust (Aluminium, chromium, magnesium, manganese, titanium, Zirconium), ammonia (NH₃), ammonium compound, peroxide, inorganic, metal hydride

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

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

If not otherwise specified the classification is based on:
Ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)**Acute toxicity**

Test data are not available for the complete mixture.

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	End-point	Value	Species	Method	Source
carbon dioxide: LDLo(rat): 6pph/24h/10d							
carbon dioxide: LDLo(human): 9pph/5min							

Skin corrosion/irritation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Serious eye damage/eye irritation

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory or skin sensitisation**Skin sensitisation**

Classification could not be established because:
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Respiratory sensitisation

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Germ cell mutagenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Carcinogenicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Reproductive toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If inhaled:

Asphyxiant gas, may displace oxygen and cause rapid suffocation

11.2 Information on other hazards**Endocrine disrupting properties**

None of the ingredients are listed.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity (acute)**

Test data are not available for the complete mixture.

Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

12.2 Persistence and degradability**Biodegradation**

No data available.

Persistence

No data available.

12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

n-octanol/water (log KOW)

not relevant
(inorganic)

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

None of the ingredients are listed.

12.7 Other adverse effects

Data are not available.

Remarks

Wassergefährdungsklasse, WGK (water hazard class): nwg

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Refer to manufacturer/supplier for information on recovery/recycling.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Refer to manufacturer/supplier for information on recovery/recycling.

Remarks

Please consider the relevant national or regional provisions.

SECTION 14: Transport information**14.1 UN number or ID number**

ADR/RID/ADN

UN1956

IMDG-Code

UN1956

ICAO-TI

UN1956

14.2 UN proper shipping name


ADR/RID/ADN

COMPRESSED GAS, N.O.S.

IMDG-Code

COMPRESSED GAS, N.O.S.

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	ICAO-TI	Compressed gas, n.o.s.
	Technical name (hazardous ingredients)	ARGON, NITROGEN
14.3	Transport hazard class(es)	
	ADR/RID/ADN	2 (2.2)
	IMDG-Code	2.2
	ICAO-TI	2.2
14.4	Packing group	-
14.5	Environmental hazards	-
14.6	Special precautions for user	-
14.7	Maritime transport in bulk according to IMO instruments	-
14.8	<u>Information for each of the UN Model Regulations</u>	
	Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)	
	Additional information	
	Particulars in the transport document	UN1956, COMPRESSED GAS, N.O.S., (ARGON, NITROGEN), 2.2, (E)
	Classification code	1A
	Danger label(s)	2.2
		
	Special provisions (SP)	274, 378, 392, 655, 662
	Excepted quantities (EQ)	E1
	Limited quantities (LQ)	120 ml
	Transport category (TC)	3
	Tunnel restriction code (TRC)	E
	Hazard identification No	20
	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) Additional information	
	Number of cones/blue lights	0
	International Maritime Dangerous Goods Code (IMDG) Additional information	
	Marine pollutant	-
	Danger label(s)	2.2



Special provisions (SP)	274, 378, 392
Excepted quantities (EQ)	E1
Limited quantities (LQ)	120 mL
EmS	F-C, S-V
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

Danger label(s)	2.2
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Special provisions (SP)	A202
Excepted quantities (EQ)	E1

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

None of the ingredients are listed.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

None of the ingredients are listed.

Seveso Directive

Not assigned.

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

None of the ingredients are listed.

Regulation on the marketing and use of explosives precursors

None of the ingredients are listed.

Regulation on drug precursors

None of the ingredients are listed.

Regulation on substances that deplete the ozone layer (ODS)

None of the ingredients are listed.

Regulation concerning the export and import of hazardous chemicals (PIC)

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2006/15/EC	Commission Directive establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value

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Abbr.	Descriptions of used abbreviations
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
ppm	Parts per million
Press. Gas	Gas under pressure
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
SVHC	Substance of Very High Concern
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties.

Health hazards.

Environmental hazards.

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H280	Contains gas under pressure; may explode if heated.

Responsible for the safety data sheet

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Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.

This safety data sheet is for information only and does not comply with the official language requirements of article 31 (5) of REACH.