


# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 1 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

<b>1 Identification of the substance/preparation and of the company/undertaking</b>		
1.1	Chemical name	Carbon dioxide
	Chemical formula	CO2
	Trade action	Dupla CO2 Depot
	Item no.	80220, 80227
	CAS no.	124-38-9
	EC no.	204-696-9
	Registration no.	Listed in Annex IV / V REACH, by the Registration excluded.
1.2	Use	To promote plant growth in aquaria
1.3	Details of the supplier providing the safety data sheet	
1.3.1	Company name	Dohse Aquaristik GmbH & Co KG Otto Hahn Str. 9 D-53501 County Gelsdorf
	Phone	02225-94150
	Fax	02225-946494
	eMail	info@dohse-aquaristik.de
1.4	Emergency number	02225 / 941 5 - 0
	Availability	Mon.-Fri. 7.30-16.30
<b>2 Possible dangers</b>		
2.1	Classification of the substance or mixture	
	Hazard class, hazard category and hazard coding, Regulation (EC) No 1272/2008 (CLP)	
	Physical hazards	Pressurised gases - compressed gases - Caution - (CLP : Press. Gas) - H280
	Classification according to EC 67/548 or EC 1999/45.	Not mentioned in Annex VI CLP. No EC labelling required. Not classified as hazardous substance / hazardous mixture.
2.2	Labelling elements	
	Labelling according to Regulation EC 1272/2008 (CLP).	
	Dangers Pictogram(s)	
	Hazard pictogram Code	GHS04
	Signal word	Attention
	Hazard warnings	H280 - Contains gas under pressure; may explode if heated. explode.
	Safety instructions-storage	P403 - Store in a well ventilated place.
2.3	Other hazards	
	Other hazards	Contact with the liquid may cause cold burns/freezing. Asphyxiating in high concentrations.

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 2 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

Geisdoni Phone: 02223-94130, Date of Issue: 15.11.2012, Date of amendment: 19.02.16 version NO.: 2

<b>3 Composition, indication of ingredients</b>					
3.1	Substance /Mixture		Fabric		
	Substance name	Content [vol-%]	CAS No. EC No	Classification(DSD )	Classification(CLP)
	Carbon dioxide	100 %	124-38-9 204-696-9	Not classified (DSD/DPD)	Liq. Gas (H280)
	Contains no other components or impurities that affect the classification of this product. * 1: Listed in Annex IV / V REACH, exempted from registration. * 2: Registration period not yet expired. * 3: Registration according to REACH not required: substance is imported < 1t/a. For full text of R-phrases see section 16. For full text of hazard statements see section 16.				
<b>4 First aid measures</b>					
4.1	After inhalation		Remove the victim to fresh air using self-contained breathing apparatus. Keep warm and calm. Call a doctor. In case of respiratory arrest, give artificial Ventilation.		
4.2	After skin contact		In case of cold burns, rinse with water for at least 15 minutes. Cover sterilely. Consult a doctor.		
4.3	After eye contact		Immediately flush eyes with water for at least 15 minutes.		
4.4	After ingestion		Ingestion is not considered a possible route of exposure.		
4.5	Most important symptoms and effects, both acute and delayed		High concentrations can cause suffocation. Symptoms may include loss of mobility and consciousness. The victim notices the suffocation not. Low concentrations of CO2 cause accelerated breathing and headaches.		
4.6	Special instructions for the doctor		None		
<b>5 Fire fighting measures</b>					
5.1	Extinguishing agent				
	Suitable extinguishing agents		Water spray or water mist.		
	Unsuitable extinguishing agents		Water jet unsuitable for extinguishing		
5.2	Special hazards arising from the substance or mixture				
	Specific risks		Exposure to fire can cause bursting / exploding of the container		
	Hazardous combustion products		None.		
5.3	Advice for firefighters				
	Specific methods		If possible, stop gas leakage. Adapt fire-fighting measures to the fire in the vicinity. Pressure vessels may burst if exposed to direct fire or radiant heat from fire. Cool endangered pressure vessels with water spray from a protected position. Do not allow polluted extinguishing water to enter drains and the sewage system. Use water spray or water mist to knock down smoke.		

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 3 from  
9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

	Special protective equipment for the Fire brigade	Use self-contained breathing apparatus. Standard EN 137 - Self-contained breathing apparatus with full face mask. Consider using flame retardant protective clothing. EN 469: Protective clothing for firefighters. EN 659: Protective gloves for firefighters.
<b>6</b>	<b>Accidental release measures</b>	
6.1	Personal precautions, protective equipment and emergency procedures	
	Use self-contained breathing apparatus when entering the area unless the atmosphere is proven to be non-hazardous. Ensure adequate ventilation. Clear the area. Prevent entry into sewers, cellars, working pits or other places where accumulation could be dangerous. Try to stop the gas leak.	
6.2	Environmental protection measures	
	Try to stop the gas leak	
6.3	Methods and material for retention and cleaning	
	Ventilate environment	
6.4	Reference to other sections	
	See also sections 8 and 13.	
<b>7</b>	<b>Handling and storage</b>	
7.1	Protective measures for safe handling	
	Safe handling of the substance	Only use equipment that is suitable for this product and the intended pressure and temperature is suitable. If in doubt, consult the gas supplier. Do not smoke when handling the product. Avoid backflow of water, acids or alkalis. Only experienced and appropriately trained persons should handle pressurised gases. handle. Make sure that the entire gas system is cleaned before use (and afterwards). has been (is regularly) checked for leaks.) Handling the product in accordance with general Occupational health and safety measures and safety instructions Provide safety valve(s) in gas installations.

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 4 from  
9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Graftschaff

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

	Safe handling of the pressurised gas container	<p>Follow the operating instructions of the gas supplier.</p> <p>Prevent backflow into the gas container.</p> <p>Replace the outlet caps or plugs and the valve protection cap as soon as the container is separated from the system.</p> <p>Protect gas cylinders from mechanical damage; do not pull, do not roll, do not push, do not drop.</p> <p>The product label is used to identify the contents of the gas cylinder and must not be removed.</p> <p>or made unrecognisable.</p> <p>Always use a cylinder trolley for transporting gas cylinders, even over short distances.</p> <p>or other suitable hand trolley. Do not remove the valve cap until the bottle has been placed against a wall or laboratory bench.</p> <p>or placed on a bottle stand and is ready for use.</p> <p>If the user has any difficulties in operating the cylinder valve</p> <p>If you notice any problems, discontinue use and contact the supplier.</p> <p>Close the valve of the container after each use and after emptying, also if it is still connected.</p>
		<p>Never attempt to repair valves or safety pressure relief devices on the tank.</p> <p>Keep the valve connections of the container clean and free from contamination, in particular free of oil and water.</p> <p>Do not attempt to transfer the gas from one gas cylinder or container to another.</p> <p>to be decanted.</p> <p>Never use flames or electric heaters to increase pressure in the tank.</p> <p>Damage to this equipment must be reported immediately to the supplier.</p> <p>become.</p>
7.2	Conditions for safe storage taking into account incompatibilities	
	Storage	<p>Store containers at less than 50°C in a well-ventilated place. The containers should be stored in a place without fire hazard and away from sources of heat and ignition.</p> <p>Stored bottles should be checked regularly for leaks and correct storage conditions.</p> <p>become.</p> <p>All regulations and local requirements for the storage of containers shall be complied with.</p> <p>Do not store the containers in conditions that accelerate corrosion. Container</p> <p>Store upright and secure against falling over. A valve protection ring should be present</p> <p>or the valve protection cap must be fitted. Keep away from flammable substances.</p>
7.3	Specific end uses	none
<b>8</b>	<b>Exposure controls / Personal protective equipment</b>	
8.1	Parameters to be monitored	

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 5 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

	Occupational exposure limit(s) Carbon dioxide	ILV (EU) - 8 H - [mg/m³] : 9000 ILV (EU) - 8 H - [ppm] : 5000 AGW (8h) - Germany [mg/m³] TRGS 900 : 9100 AGW (8h) - Germany [ppm] TRGS 900 : 5000 Peak limit / Exceedance factor AGW - Germany TRGS 900 : 2
	DNEL: Derived No Effect Level (workers)	n.a.
	PNEC: Predicted no effect concentration	n.a.
8.2	Exposure controls and monitoring	
8.2.1	Suitable technical control devices	Provide general and and local exhaust ventilation. Installations that are under pressure should be checked regularly for leaks. Ensure that concentrations of the product in the ambient air are sufficiently are below the occupational exposure limit (if any). Use oxygen detectors if asphyxiating gases may be emitted. Consider work permit procedures e.g. for maintenance work.
8.2.2	Individual protection measures	A risk assessment should be carried out for all work areas.
	e.g. personal protective equipment	The product must be used in a manner that is consistent with the intended use of the product. protective equipment is derived. The following recommendations should be considered: Select personal protective equipment that complies with EN / ISO standards. stands.
	Eye / face protection	Wear safety goggles with side shields or full safety goggles when transferring or donning and doffing. Locking activities are carried out. Wear safety goggles with side protection. Standard EN 166 - Personal eye protection.
	Hand protection	Wear work gloves when handling pressure vessels / pressurised gas cylinders. Standard EN 388 - Protective gloves against mechanical risks.
	Other protective measures	Wear safety shoes when handling pressurised gas cylinders / pressure vessels. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
	Breathing protection	Use self-contained breathing apparatus or a compressed air line with mask in case of oxygen-reduced atmosphere. Standard EN 137 - Self-contained breathing apparatus with full face mask.
	Thermal hazards	None required.
8.2.3	Limitation and monitoring of environmental exposure	None required
<b>9</b>	<b>Physical and chemical properties</b>	
9.1	Information on the basic physical and chemical properties	
	Appearance	
	Physical state at 20°C / 1013kPa	Gas.
	Colour	Colourless
	Smell	No warning due to odour

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 6 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

	Odour threshold	Odour perception is subjective and not suitable to warn of overexposure
	Molar mass [g/mol]	44
	Melting point [°C]	-56,6
	Boiling point [°C]	-78,5 (s)
	Flash point [°C]	n.a.
	Evaporation rate	n.a.
	Ignition limits [vol.% in air]	Non-flammable.
	Vapour pressure [20°C]	57.3 bar
	Relative density, gas (air=1)	1,52
	Relative density, liquid (water=1)	0,82
	Solubility in water [mg/l]	2000 Completely soluble.
	Partition coefficient n-octanol/water [log Kow]	0,83
	Ignition temperature [°C]	n.a.
9.2	Other information	Gas/vapours are heavier than air. They can accumulate in enclosed spaces, especially on the floor or in low-lying areas.
<b>10</b>	<b>Stability and reactivity</b>	
10.1	Reactivity	No reactivity hazards other than those listed in the following subsections. are described.
10.2	Chemical stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	none
10.4	Conditions to avoid	None under the recommended conditions of use and storage (See section 7).
10.5	Incompatible materials	None. For further information on material compatibility: see ISO11114.
10.6	Hazardous decomposition products	None.
<b>11</b>	<b>Toxicological information</b>	
11.1	Acute toxicity	In high concentrations, circulatory problems occur even with normal oxygen concentration in the air we breathe. Symptoms are headache, nausea and Vomiting. Loss of consciousness and death may result.
	Corrosive/irritant effect on the skin	No effects of the product known.
	Serious eye damage/irritation	No effects of the product known.
	Sensitisation of the respiratory tract/skin	No effects of the product known.
	Carcinogenicity	No effects of the product known.
	Mutagenicity	No effects of the product known.
	Reproductive toxicity	No effects of the product known.
	Specific target organ toxicity after a single exposure	No effects of the product known.
	Specific target organ toxicity in case of repeated exposure	No effects of the product known.
	Aspiration hazard	Not applicable to gases and gas mixtures


# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 7 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

12 Environmental information		
12.1	Toxicity	The product does not cause any environmental damage.
12.2	Persistence and degradability	No effects of the product known.
12.3	Bioaccumulation potential	No effects of the product known.
12.4	Mobility in soil	No effects of the product known.
12.5	Results of the PBT and vPvB assessment	Not classified as PBT or vPvB
12.6	Other adverse effects	
	Effect on the ozone layer	none
	Impact on global warming	Can contribute to the greenhouse effect if emitted in large quantities.
	Global warming potential [CO2=1]	1
13 Notes on disposal		
13.1	Waste treatment process	Can be discharged into the atmosphere in a well-ventilated place. Discharging large quantities into the atmosphere should be avoided. Do not discharge into sewers, cellars, working pits and similar places where accumulation of the gas may become dangerous. could be allowed to flow out.
	List of hazardous waste	16 05 05: Gases in pressure vessels other than those mentioned in 16 05 04 named
13.2	Additional information	none
14 Transport information		
	UN number	1013
	Hazard label no. according to ADR/RID, marking according to IMDG, IATA	 <p>2.2 : Non-flammable, non-toxic gases.</p>

# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 8 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

	<u>Land transport (ADR/RID)</u>  Number identifying the hazard  Official designation for promotion  Class  ADR/RID Classification code  Packing instruction(s) Tunnel  Restriction code  Environmental hazards	20  Carbon dioxide  2  2A  P200  C/E : Carriage in tanks: Transit prohibited through tunnels of categories C, D and E. Other transport: Transit prohibited through category E tunnels.  none
	<u>Sea transport (IMDG)</u>  Proper shipping name  Class  Emergency Schedule (EmS) - Fire  Emergency Schedule (EmS) - Spillage  Packing instruction  IMDG-Marine  pollutant  Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	CARBON DIOXIDE  2.2  F-C  S-V  P 200  No  Not applicable.
	<u>Air transport (ICAO-TI / IATA-DGR)</u>  Proper shipping name (IATA)	CARBON DIOXIDE
	Class  Passenger and Cargo Aircraft  Packing instruction - Passenger and Cargo Aircraft	2.2  Allowed /  Permitted. 200
	Special precautions for the user	-Ensure sufficient ventilation. -The driver must know the possible dangers of the load and he must know what to do in case of an accident or emergency. -Before transport : Secure container. -The bottle valve must be closed and tight. -The valve lock nut or plug (if present) must be correctly fastened. - The valve protection device (if present) must be correctly fastened. -If possible, do not transport in vehicles whose load compartment is not separated from the driver's cabin.



# SAFETY DATA SHEET according to Directive 1907/2006/EC (REACH)

Page 9 from 9

Trade name: Dupla CO2 Depot

Manufacturer / Supplier: Dohse Aquaristik GmbH & Co. KG, Otto Hahn Str. 9, D-53501 Grafschaft

Gelsdorf Phone: 02225-94150, Date of issue: 15.11.2012, Date of amendment: 19.02.16 Version No.: 2

<b>15 Legislation</b>							
15.1	Safety, health and environmental regulations/specific legislation for the substance or mixture						
	<table> <tr> <td><u>EC legislation</u></td><td></td></tr> <tr> <td>Restriction(s) on use Seveso</td><td>None</td></tr> <tr> <td>Directive 96/82/EC</td><td>n.a.</td></tr> </table>	<u>EC legislation</u>		Restriction(s) on use Seveso	None	Directive 96/82/EC	n.a.
<u>EC legislation</u>							
Restriction(s) on use Seveso	None						
Directive 96/82/EC	n.a.						
	<table> <tr> <td><u>National legislation</u> <u>4th BImSchV</u></td><td>Observe all national/local regulations.</td></tr> <tr> <td>Water hazard class WGK Other laws and technical regulations (Not complete)</td><td>LOD - not hazardous to water Ordinance on Hazardous Substances, Ordinance on Industrial Safety and Health, BGR 500 Part 2.33: Handling of gases, Technical Rule Gases TRG 280, Technical Rules Hazardous Substances TRGS 400, 500, 510, 900.</td></tr> </table>	<u>National legislation</u> <u>4th BImSchV</u>	Observe all national/local regulations.	Water hazard class WGK Other laws and technical regulations (Not complete)	LOD - not hazardous to water Ordinance on Hazardous Substances, Ordinance on Industrial Safety and Health, BGR 500 Part 2.33: Handling of gases, Technical Rule Gases TRG 280, Technical Rules Hazardous Substances TRGS 400, 500, 510, 900.		
<u>National legislation</u> <u>4th BImSchV</u>	Observe all national/local regulations.						
Water hazard class WGK Other laws and technical regulations (Not complete)	LOD - not hazardous to water Ordinance on Hazardous Substances, Ordinance on Industrial Safety and Health, BGR 500 Part 2.33: Handling of gases, Technical Rule Gases TRG 280, Technical Rules Hazardous Substances TRGS 400, 500, 510, 900.						
15.2	Chemical Safety Assessment						
	A Chemical Safety Assessment (CSA) does not need to be prepared for this product.						
<b>16 Other information</b>							
	<table> <tr> <td>Changes</td><td>Safety data sheet in accordance with Regulation (EU) No 453/ 2010. Reason for amendment: Update.</td></tr> </table>	Changes	Safety data sheet in accordance with Regulation (EU) No 453/ 2010. Reason for amendment: Update.				
Changes	Safety data sheet in accordance with Regulation (EU) No 453/ 2010. Reason for amendment: Update.						
	<table> <tr> <td>Training information</td><td>The risk of suffocation is often overlooked and must be given special attention when instructing employees. be highlighted</td></tr> </table>	Training information	The risk of suffocation is often overlooked and must be given special attention when instructing employees. be highlighted				
Training information	The risk of suffocation is often overlooked and must be given special attention when instructing employees. be highlighted						
	<table> <tr> <td>Full text of hazard statements in section 3.:</td><td>H280 - Contains gas under pressure; may explode if heated.</td></tr> </table>	Full text of hazard statements in section 3.:	H280 - Contains gas under pressure; may explode if heated.				
Full text of hazard statements in section 3.:	H280 - Contains gas under pressure; may explode if heated.						
	<table> <tr> <td>Comment</td><td>This Safety Data Sheet has been prepared in accordance with applicable European Directives. It applies to all Countries that have adopted these guidelines into their national legislation.</td></tr> </table>	Comment	This Safety Data Sheet has been prepared in accordance with applicable European Directives. It applies to all Countries that have adopted these guidelines into their national legislation.				
Comment	This Safety Data Sheet has been prepared in accordance with applicable European Directives. It applies to all Countries that have adopted these guidelines into their national legislation.						
	<table> <tr> <td>DISCLAIMER</td><td>Before using the product in any new process or experiment, careful investigation should be made as to material compatibility and safety. The information in this document does not constitute a contractual representation by Product characteristics. They are based on the current state of knowledge</td></tr> </table>	DISCLAIMER	Before using the product in any new process or experiment, careful investigation should be made as to material compatibility and safety. The information in this document does not constitute a contractual representation by Product characteristics. They are based on the current state of knowledge				
DISCLAIMER	Before using the product in any new process or experiment, careful investigation should be made as to material compatibility and safety. The information in this document does not constitute a contractual representation by Product characteristics. They are based on the current state of knowledge						

End of the document