


SAFETY DATA SHEET

This document supersedes the MSDS revision 02 dated 17th June, 2021


Requirements	Description
1. IDENTIFICATION AND COMPANY NAME	<p>Product details: <u>CARBON DIOXIDE, Compressed & Liquefied Gas</u></p> <p>Supplier Name: National Industrial Gas Plants Address: Salwa Industrial Area Street 45, Gate 75 - Doha Qatar P.O. Box: 1391 Telephone: : <u>Head Office</u> + 974 4468-9083, <u>Sales</u>: 4442-8844, <u>Plant</u>: 4450-00-08 Fax : <u>Head Office</u> +974 4458-3333, <u>Sales</u>: 4450-00-33, <u>Plant</u>: 4460-35-32 E-mail: nigp@qatar.net.qa , sales45@nigpqatar.com Emergency HOT LINE Tel.: + 974-7776-6277 Web Site: https://www.almanaholding.com.qa</p>
2. HAZARD IDENTIFICATION	<p>Hazard pictograms:</p>  <p>GHS04 – gases under pressure</p> <p>Signal word : Warning</p> <p>Hazard statements: H281-Contains refrigerated gas; may cause cryogenic burns or injury. Physical hazards: Gases under pressure-Refrigerated liquefied gas-Warning - (CLP: Press. Gas)-H281 Classification EC 67/548 or EC 1999/45 : Not classified as dangerous substance/mixture</p> <p>Precautionary statements</p> <p>- Prevention : P282-Wear cold insulating gloves, face shield, eye protection. -Response : P336+P315-Thaw frosted parts with luke warm water. Do no rub affected area. Get immediate medical advice / attention. Storage : P403 - Store in a well-ventilated place.</p>
3. COMPOSITION / INGREDIENT IDENTIFICATION	<p>Substance/Preparation : Substance UN Number : 1013 Components: This product is hazardous. Chemical Formula : CO₂ Substance Name : Carbon Dioxide Contents : 100% CAS No. : 124-38-9 EC No. : 204-696-9 Contains no other components or impurities which will influence the classification of the product.</p>
4. FIRST AID MEASURES	<p>Inhalation:</p> <ul style="list-style-type: none"> In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness, dizziness, drowsiness, nausea, diminished mental alertness, impaired muscular coordination, faulty judgment, depression of all sensations, emotional



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	<p>instability and fatigue. Victim may not be aware of asphyxiation.</p> <ul style="list-style-type: none"> • Low concentrations of CO₂ causes increased respiration and headache. • Lack of sufficient oxygen may cause serious injury or death. • Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped. <p>Skin/eye contact:</p> <ul style="list-style-type: none"> • Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply sterile Dressing, Obtain medical assistance. • Adverse effects not expected from this product. <p>Ingestion:</p> <ul style="list-style-type: none"> • Not expected to present a significant ingestion hazard under anticipated conditions of normal use.
<p>5. FIRE-FIGHTING MEASURES</p>	<p>Suitable extinguishing media:</p> <ul style="list-style-type: none"> • All known extinguishants can be used. <p>Specific hazards:</p> <ul style="list-style-type: none"> • Exposure to fire may cause containers to rupture/explode. <p>Hazardous combustion products:</p> <ul style="list-style-type: none"> • None <p>Specific methods:</p> <ul style="list-style-type: none"> • If possible, stop flow of product • Coordinate fire measure to the surrounding fire. Cool endangered containers with water spray jet from a protected position. Do not empty contaminated fire water into drains. • Move away from the container and cool with water from a protected position. • If leaking do not spray water onto container. Water surrounding area (from protected position) to contain fire. <p>Special protective equipment for fire fighters:</p> <ul style="list-style-type: none"> • In confined space use self-contained breathing apparatus.
<p>6. ACCIDENTAL RELEASE MEASURES</p>	<p>Personal Precautions:</p> <ul style="list-style-type: none"> • Evacuate area. • Ensure adequate air ventilation. • Use protective clothing. • Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. <p>Environmental Precautions:</p> <ul style="list-style-type: none"> • Try to stop release. • Prevent dispersal of spilled material from entering sewers, basements, and work pits, or any where its accumulation can be dangerous. <p>Clean Up Methods: Ventilate area.</p>
<p>7. STORAGE AND HANDLING</p>	<p>Safe use of the product:</p> <ul style="list-style-type: none"> • Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. • Only experienced and properly instructed persons should handle gases under pressure. The product must be handled in accordance with good industrial hygiene and safety procedures. • Do not smoke while handling product. • Ensure the complete gas system was (or is regularly) checked for leaks before use. <p>Safe Handling of the gas receptacle:</p> <ul style="list-style-type: none"> • Refer to supplier's container handling instructions. • Do not allow back feed into the container. • Protect cylinders from physical damage; do not drag, roll, slide or drop. • When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. • Leave valve protection caps in place until the container has been secured against

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	<p>either a wall or bench or placed in a container stand and is ready for use.</p> <ul style="list-style-type: none"> • If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. • Never attempt to repair or modify container valves or safety relief devices. • Damaged valves should be reported immediately to the supplier. • Keep container valve outlets clean and free from 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 cylinder contents. <p>General:</p> <ul style="list-style-type: none"> • Containers, which contain or have contained flammable or explosive substances, must not be inserted with liquid carbon dioxide. Potential production of solid CO₂ particles must be ruled out. In order to rule out potential electrostatic discharge production, the system must be adequately grounded. <p>Handling:</p> <ul style="list-style-type: none"> • Suck back of water into the container must be prevented. • Do not allow back feed into the container. • Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. • Refer to supplier's container handling instructions. <p>Conditions for safe Storage, including any incompatibilities:</p> <ul style="list-style-type: none"> • Keep away from combustible materials. • Keep container below 50°C in a well ventilated place. • Observe all regulations and local requirements regarding storage of containers. • Containers should not be stored in conditions likely to encourage corrosion. • Containers should be stored in the vertical position and properly secured to prevent toppling. • Stored containers should be periodically checked for general condition and leakage. • Container valve guards or caps should be in place. • Store containers in location free from fire risk and away from sources of heat and ignition.
<p>8. EXPOSURE CONTROLS/ PERSONAL PROTECTION</p>	<p>Appropriate engineering Controls:</p> <ul style="list-style-type: none"> • Systems under pressure should be regularly checked for leakages. • Provide adequate general and local exhaust ventilation. • Consider work permit system e.g. for maintenance activities. <p>Individual Protection measure / Personal protective equipment:</p> <ul style="list-style-type: none"> • A risk assessment should be conducted and documented in each work area to assess the risk related to the use of the product and select the PPE that matches the relevant risk. • The following recommendations should be considered. • Wear safety glasses with side shields. • Wear leather safety gloves and safety shoes when handling cylinders. • Ensure adequate ventilation. • Protect eyes, face and skin from liquid splashes. • Safety shoes are recommended when handling cylinders. <p>Environmental exposure controls:</p> <ul style="list-style-type: none"> • Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

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<p>9. PHYSICAL AND CHEMICAL PROPERTIES</p>	<p>Information on basic physical and chemical properties</p> <p>Appearance</p> <p>Physical state at 20°C /101.3kPa : Liquefied gas.</p> <p>Colour : Colourless</p> <p>Odour : No odour warning properties.</p> <p>Odour threshold : Odour threshold is subjective and inadequate to warn for over exposure.</p> <p>pH value : Not applicable for gas-mixtures.</p> <p>Molar mass [g/mol] : Not applicable for gases and gas-mixtures.</p> <p>Melting point [°C] : -56.6</p> <p>Boiling point [°C] : -78.5 (s)</p> <p>Critical temperature[°C] : 30 (87.9°F)</p> <p>Flash point [°C] : Not applicable for gas-mixtures.</p> <p>Evaporation rate (ether=1) : Not applicable for gas-mixtures.</p> <p>Flammability range [vol% inair] : Non flammable</p> <p>Vapour pressure [20°C] : 57.3 bar</p> <p>Relative density, gas (air=1) : 1.52</p> <p>Relative density, liquid (water=1) : 1.03</p> <p>Solubility in water[mg/l] : 2000</p> <p>Partition co efficient n-octanol / water : Not applicable for gas-mixtures.</p> <p>Viscosity at 20°C [mPa.s] : Not applicable.</p> <p>Explosive Properties : Not applicable.</p> <p>Molecular weight : 44</p> <p>Dew Point [°F] : - 60</p> <p>Specific Volume of gas : 0.5457 m³/kg @ 70°F (21 °C)</p> <p><u>Other information</u></p> <p>Other data: Gas/vapor heavier than air. May accumulate in confined Spaces, particularly at or below ground level.</p>
<p>10. STABILITY AND REACTIVITY</p>	<p>Stability and Reactivity :</p> <ul style="list-style-type: none"> No reactivity hazard other than the effects described in sub-sections below. Stable under normal conditions. Liquid spillages can cause embrittlement of structural materials. <p>Chemical stability:</p> <ul style="list-style-type: none"> Stable under normal conditions. <p>Conditions to avoid:</p> <ul style="list-style-type: none"> None <p>Hazardous decomposition products :</p> <ul style="list-style-type: none"> Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<p>11. TOXICOLOGICAL INFORMATION</p>	<p>Toxicity information: In high concentrations cause rapid circulatory insufficiency even at normal levels of oxygen concentration. Symptoms are headache, nausea and vomiting, which may lead to unconsciousness and death.</p> <p>Skin corrosion/irritation : No known effects from this product.</p> <p>Serious eye damage/irritation : No known effects from this product.</p> <p>Respiratory or skin Sensitization: No known effects from this product.</p> <p>Acute toxicity : No known toxicological effects from this product.</p> <p>Rat inhalation LC50 (ppm/4h) : No data available.</p> <p>STOT-single exposure : No known effects from this product.</p> <p>STOT-repeated exposure : No known effects from this product.</p> <p>Aspiration Hazard : Not applicable for gases and gas-mixtures</p>

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12. ECOLOGICAL INFORMATION	<p>Toxicity : No data available</p> <p>Ecological Effects Information</p> <ul style="list-style-type: none"> • Can cause frost damage to vegetation. • When discharged in large quantities may contribute to the greenhouse effect.
13. DISPOSAL CONSIDERATIONS	<p>Waste treatment methods</p> <ul style="list-style-type: none"> • May be vented to atmosphere in a well ventilated place. • Do not discharge into any place where its accumulation could be dangerous. • Refer to the code of practice of EIGA (Doc. 30/10 "Disposal of Gases, downloadable at http://www.eiga.org) for more guidance on suitable disposal methods. • Contact supplier if guidance is required. <p>General</p> <ul style="list-style-type: none"> • Do not discharge into any place where its accumulation could be dangerous. • Discharge to atmosphere in large quantities should be avoided. • Contact supplier if guidance is required.
14. TRANSPORT INFORMATION	<p>UN number: 1013 HS Code : 28112190 Labeling</p>  <p>: 2.2 : Non Flammable, nontoxic gas.</p> <p><u>Land transport</u> UN proper shipping name : CARBON DIOXIDE Transportation hazard class(es) : 2 Classification code : 2 A Packing Instruction(s) : P200 Tunnel Restriction : C/E Tank carriage: Passage forbidden through tunnels of category C, D and E: Other carriage: Passage forbidden through tunnels category E. HAZCHEM – Emergency Action Code: 2T 2 = Fine water spray. T = Recommended personal protective equipment: Full fire kit and breathing apparatus. Appropriate measures : dilute</p> <p><u>Sea transport</u> Proper shipping name : CARBON DIOXIDE Hazard class(es) : 2.2 Emergency Schedule (EmS) - Fire : F-C Emergency Schedule (EmS) - Spillage : S-V Packing Instruction(s) : P200</p> <p><u>Air transport</u> Proper shipping name : CARBON DIOXIDE Hazard class(es) : 2.2 Passenger and Cargo Aircraft : Allowed</p> <p><u>Special precautions for user / transport information</u></p> <ul style="list-style-type: none"> • 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. <p>Before transporting product containers.</p> <ul style="list-style-type: none"> • Ensure there is adequate ventilation.

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	<ul style="list-style-type: none"> • Ensure that containers are firmly secured. • Ensure cylinder valve is closed and not leaking. • Ensure valve outlet cap nut or plug (where provided) is correctly fitted. • Ensure valve protection device (where provided) is correctly fitted. • Compliance with applicable regulations. <p><u>In case of spillage and/or leakage</u></p> <ul style="list-style-type: none"> • Clean up even minor leaks or spills if possible without unnecessary risk. <p><u>Emergency Action in case of accident</u></p> <ul style="list-style-type: none"> • Stop the engine • No naked lights. No smoking. • Mark roads and warns road users. • Keep public away from danger area. • NOTIFY POLICE AND FIRE BRIDGE IMMEDIATELY.
<p>15. REGULATORY INFORMATION</p>	<p><u>Safety, health and environmental regulations/legislation specific for the substance or mixture</u></p> <ul style="list-style-type: none"> • EU Legislation / Seveso directive 96/82/EC : Not covered • National legislation: Ensure all national/local regulations are observed. • Chemical safety Assessment: A CSA does not need to be carried out for this product. <p>Classification:</p> <ul style="list-style-type: none"> • Not listed as an extremely hazardous substance. • Not listed as a toxic chemical. • Not listed as a regulated substance.
<p>16. OTHER INFORMATION</p>	<p>Indication of changes / Training Advice</p> <ul style="list-style-type: none"> • Revised safety data sheet in accordance with commission regulation (EU) No453/2010. • Asphyxiate in high concentrations. • Keep container in a well-ventilated place. • Do not breathe the gas. • May cause frostbite. • The hazard of asphyxiation is often over looked and must be stressed during operator training. • Ensure all national/local regulations are observed. • Receptacle under pressure. <p>List of full text of H-statements in section 3.</p> <ul style="list-style-type: none"> • H281-Contains refrigerated gas; may cause cryogenic burns or injury. <p>Further information</p> <ul style="list-style-type: none"> • Classification in accordance with calculation methods of regulation (EC) 1272/2008CLP / (EC) 1999/45DPD. <p>This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.</p>

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