




SAFETY DATA SHEET

Creation Date: 1-21-21

Revision Date: 1-21-21

SDS-1, Revision Number: 1

1	Identification	<p>a) MC-105, MC-110, MC-620, and MC-900; PCA-001, PCA-301, PCA-302</p> <p>b) Carbon Monoxide and Methane Calibration Gas</p> <p>c) Recommended use: Carbon Monoxide, Methane, Oxygen and Nitrogen Calibration Gas</p> <p>d) Bascom-Turner Instruments, Inc., 111 Downey Street, Norwood, MA 02062.</p> <p>e) Emergency telephone number: 781-769-9660</p>																									
2	Hazard(s) identification	<p>a) Classification of substance or mixture: GHS04 Gas Cylinder</p> <p>b) Signal word: Warning</p> <div style="display: flex; align-items: center;">  <p>Hazard Statements: H280 Contains gas under pressure; may explode if heated Simple Asphyxiant – May displace oxygen and cause suffocation</p> <p>Precautionary Statements: P410: Protect from Sunlight P403: Store in a well-ventilated place</p> </div> <p>c) Hazards not otherwise classified: None known.</p> <p>d) No component at 1% concentration or higher having unknown acute toxicity.</p>																									
3	Composition/ information on ingredients	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Hazardous Ingredients Approximate</th> <th style="width: 15%;">Concentration %</th> <th style="width: 15%;">C.A.S. N.A. or U.N. Number</th> <th style="width: 20%;">“Exposure limits”</th> <th style="width: 30%;">LD50/LC50</th> </tr> </thead> <tbody> <tr> <td>Carbon Monoxide</td> <td>0.01% (100 ppm)</td> <td>630-08-0</td> <td>ACGIH TLV 25 ppm OSHA PEL 50 ppm NIOSH C 200 ppm</td> <td>1807 ppm/4hrs. LC50 Rat Inhalation 1334 ppm LD50 Wild Bird Inhalation</td> </tr> <tr> <td>Methane</td> <td>2.5%</td> <td>74-82-8</td> <td>None, Methane is a simple asphyxiant</td> <td></td> </tr> <tr> <td>Oxygen</td> <td>18 – 23%</td> <td>7782-44-7</td> <td>None, Oxygen should be maintained >19.5%</td> <td></td> </tr> <tr> <td>Nitrogen (Main Component)</td> <td>Balance</td> <td>7727-37-9</td> <td>None, Nitrogen is a simple asphyxiant</td> <td></td> </tr> </tbody> </table>	Hazardous Ingredients Approximate	Concentration %	C.A.S. N.A. or U.N. Number	“Exposure limits”	LD50/LC50	Carbon Monoxide	0.01% (100 ppm)	630-08-0	ACGIH TLV 25 ppm OSHA PEL 50 ppm NIOSH C 200 ppm	1807 ppm/4hrs. LC50 Rat Inhalation 1334 ppm LD50 Wild Bird Inhalation	Methane	2.5%	74-82-8	None, Methane is a simple asphyxiant		Oxygen	18 – 23%	7782-44-7	None, Oxygen should be maintained >19.5%		Nitrogen (Main Component)	Balance	7727-37-9	None, Nitrogen is a simple asphyxiant	
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4	First aid measures	<p>a) Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion: Gas mixture is not harmful.</p> <p>b) Most important symptoms/effects, acute and delayed: None.</p> <p>c) Indication of immediate medical attention and special treatment needed, if necessary: NA</p>																									
5	Fire-fighting measures	<p>a) Suitable (and unsuitable) extinguishing media.: Non-flammable gas mixture. Use extinguishing media appropriate for surrounding fire.</p> <p>b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):. None</p> <p>c) Special protective equipment and precautions for fire-fighters.: Although gas mixture is non-flammable, the containers may rupture or burst due to the heat when exposed to fire.</p>																									
6	Accidental release measures	<p>a) Personal precautions, protective equipment, and emergency procedures: Treat any fumes as toxic. In a confined area, NIOSH approved respiratory equipment may be required.</p> <p>b) Methods and materials for containment and cleaning up: Due to the small size and content of the cylinders (e.g. 105 liters and 620 liters of gas), an accidental release of this product presents significantly less risk of an oxygen deficient environment and other safety hazards than a similar release from a larger cylinder.</p>																									

7	Handling and storage	<p>a) Precautions for safe handling: Firmly secure cylinders to prevent knocking over or falling. Ensure good ventilation/exhaustion at the workplace.</p> <p>b) Conditions for safe storage, including any incompatibilities: Cylinders must be protected from the environment, and preferably kept at room temperature. Cylinders should be stored in dry, well ventilated areas, away from sources of heat, ignition, and direct sunlight. Protect cylinders against physical damage.</p>
8	Exposure controls/personal protection	<p>a) OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.: CO 35 ppm OSHA PEL, 200 ppm C</p> <p>b) Appropriate engineering controls: No special ventilation systems or engineering controls are needed under normal circumstances of use. As with all chemicals, use product in well ventilated areas.</p> <p>c) Individual protection measures, such as personal protective equipment: NA</p>
9	Physical and chemical properties	<p>a) Appearance (physical state, color, etc.): Invisible gas</p> <p>b) Odor: Odorless</p> <p>c) Odor threshold: NA</p> <p>d) pH: NA</p> <p>e) Melting point/freezing point: NA</p> <p>f) Initial boiling point and boiling range: NA</p> <p>g) Flash point: none</p> <p>h) Evaporation rate: NA</p> <p>i) Flammability (solid, gas): Non-flammable</p> <p>j) Upper/lower flammability or explosive limits: NA</p> <p>k) Vapor pressure: NA</p> <p>l) Vapor density: air density</p> <p>m) Relative density: NA</p> <p>n) Solubility(ies);</p> <p>o) Partition coefficient: n-octanol/water;</p> <p>p) Auto-ignition temperature: NA</p> <p>q) Decomposition temperature: NA</p> <p>r) Viscosity: NA</p>
10	Stability and reactivity	<p>a) Reactivity; Oxidizer, similar to air</p> <p>b) Chemical stability: Stable</p> <p>c) Possibility of hazardous reactions: Similar to air;</p> <p>d) Conditions to avoid (e.g., static discharge, shock, or vibration): Cylinders should be firmly secured during storage and use to prevent falling or being knocked over. Cylinders should be stored in dry, well ventilated areas, away from sources of heat, ignition, and direct sunlight. Protect cylinders against physical damage.</p> <p>e) Incompatible materials: Similar to air</p> <p>f) Hazardous decomposition products: NA</p>

11	Toxicological information	<p>Description of the various toxicological (health) effects and the available data used to identify those effects, including:</p> <ul style="list-style-type: none"> a) Information on the likely routes of exposure: Inhalation b) Symptoms related to the physical, chemical and toxicological characteristics: Inhalation: No unusual health effects are anticipated after exposure to this product, due to the small cylinder size. If any adverse symptom develops after over-exposure to this product, remove victim(s) to fresh air as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation if necessary. c) Delayed and immediate effects and also chronic effects from short- and long-term exposure: Victim(s) who experience any adverse effect after over-exposure to this product must be taken for medical attention. Take a copy of the label and the SDS to physician or other health professional with victim(s). d) Numerical measures of toxicity (such as acute toxicity estimates): LD/LC50 values that are relevant for classification: 74-82-8 Methane Inhalative LC50/4 hrs.: 217 mg/L (mouse). e) Whether the hazardous chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.
12	Ecological information (Non-mandatory)	<ul style="list-style-type: none"> a) Ecotoxicity (aquatic and terrestrial, where available); unknown. b) Persistence and degradability: No relevant information available. c) Bioaccumulative potential: No relevant information available. d) Mobility in soil: No relevant information available. e) Other adverse effects (such as hazardous to the ozone layer): None
13	Disposal considerations (Non-mandatory)	<p>Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging: Prior to disposal, vent any remaining gas in a well-ventilated area. Once the cylinders are relieved of pressure (empty) they are not considered hazardous material or waste. It is acceptable to place empty cylinders in a landfill if local laws permit.</p>
14	Transport information (Non-mandatory)	<ul style="list-style-type: none"> a) UN number: UN1956 b) UN proper shipping name; compressed gasses, n.o.s. (Nitrogen, Oxygen) c) Transport class(es): Hazard class number and description: 2.2 Non-flammable gas d) Packing group, if applicable; e) Environmental hazards (e.g., Marine pollutant (Yes/No)): No f) Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): DOT Label required: Non-Flammable Gas. North American Emergency Response Guidebook Number (1996): 126 g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises.
15	Regulatory information (Non-mandatory)	<p>Safety, health and environmental regulations specific for the product in question:</p> <p>Section 355 (extremely hazardous substances): None of the ingredients are listed.</p> <p>Section 313 (Specific toxic chemical listings): None of the ingredients are listed.</p> <p>TSCA (Toxic Substances Control Act): All ingredients are listed or exempt from listing.</p> <p>Chemicals known to cause cancer: None of the ingredients are listed.</p> <p>Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed.</p> <p>Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.</p> <p>Chemicals known to developmental toxicity: None of the ingredients are listed.</p>
16	Other information, including date of preparation or last revision	SDS prepared on 01/21/2021