Section 1. IDENTIFICATION

1.1. Product identifier

Product form: Mixture

Product name: Butane (1PPM-0.9999%) in Air (Oxygen 20.9% bal. Nitrogen)

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

Product use: Calibration gas/Bumptest gas/Function test gas

1.3. Details of the supplier of the safety data sheet

Intermountain Specialty Gases
520 N. Kings Road
Nampa, ID 83687
Telephone 1-208-466-9425 or Toll free 1-800-552-5003
Fax 1-208-466-9144
www.isgases.com

1.4. Emergency telephone number

Emergency number: CHEMTREC: 1-800-424-9300

Section 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification: GASES UNDER PRESSURE - Compressed gas

2.2. Label elements

Hazard pictograms

Signal word: WARNING

Hazard statements: H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED
                      CGA-HG24 - MAY SUPPORT COMBUSTION

Precautionary statements:
[General] Read and follow all Safety Data Sheets (SDS's) before use. Read label before use. Keep out of reach of children. If medical advice is needed, have a product container or label at hand. Use equipment rated for cylinder pressure.
Butane (1PPM-0.9999%) in Air (Oxygen 20.9% bal. Nitrogen)

[Prevention]: P202 - Do not handle until all safety precautions have been read and understood
: P271+P403 - Use only outdoors or in a well-ventilated area

[Response]: Not applicable

[Storage]: CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)

[Disposal]: Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity
No data available

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen</td>
<td>(CAS No) 7727-37-9</td>
<td>75.5001 - 80.4999</td>
</tr>
<tr>
<td>Oxygen</td>
<td>(CAS No) 7782-44-7</td>
<td>19.5 - 23.5</td>
</tr>
<tr>
<td>Butane</td>
<td>(CAS No) 106-97-8</td>
<td>0.0001 - 0.9999</td>
</tr>
</tbody>
</table>

Section 4. FIRST AID MEASURES

4.1. Description of first aid measures

General: IF exposed or concerned: Get medical advice/attention.
Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
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, refer to the inhalation section.

4.2. Most important symptoms and effects

Acute
Inhalation: No known significant effects or critical hazards
Skin contact: Contact with rapidly expanding gas may cause burns or frostbite.
Eye contact: Contact with rapidly expanding gas may cause burns or frostbite.
Ingestion: Ingestion is not considered a potential route of exposure, refer to the inhalation section.
Frostbite: Thaw frosted parts with lukewarm water. Do not rub affected areas. Get immediate medical advice/attention.
Symptoms/injuries upon intravenous administration: Not known.

Chronic symptoms: Adverse effects not expected from this product.
Delayed: Adverse effects not expected from this product.

4.3. Indication of any immediate medical attention and special treatment needed
If victim feels unwell, seek medical advice. If breathing is difficult, give artificial respiration or oxygen by trained personnel.

Section 5. FIREFIGHTING MEASURES

5.1. Extinguishing media
Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture
Fire hazard: The product is not flammable
Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity: None known.

5.3. Advice for fire-fighters
Firefighting instructions: In case of fire: Evacuate all personnel from the danger area. Stop the leak and flow of gas before extinguishing fire, if safe to do so. If this is not possible, withdraw from area and allow fire to burn. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Let the fire burn. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Exercise caution when fighting any chemical fire.
Protection during firefighting: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus, SCBA) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

Section 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Ensure adequate ventilation.

6.1.1. For non-emergency personnel
Protective equipment: Wear protective equipment consistent with the site emergency plan.

6.1.12. For emergency responders
Protective equipment: Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.
Emergency procedures: Evacuate and limit access. Ventilate area. See information above "For non-emergency personnel".

6.2. Methods and material for containment and cleaning up
Section 7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Precautions for safety handling: Pressurized container: Do not pierce or burn, even after use. Use equipment rated for cylinder pressure. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Protect cylinders from physical damage; do not drag, roll, slide, or drop.

Hygiene measures: Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: None known.

Storage conditions: Do not expose to temperatures exceeding 52°C (125°F). Store locked up. Keep containers closed when not in use. Protect cylinder from physical damage. Store in well ventilated area.

Incompatible products: None known.

Incompatible materials: None known.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Nitrogen (7727-37-9)

<table>
<thead>
<tr>
<th>OSHA PEL ppm</th>
<th>Cal/OSHA PEL (as of 4/26/13)</th>
<th>NIOSH REL (as of 4/26/13)</th>
<th>ACGIH 2015 TLV 8-hour TWA (ST) STEL ( C ) Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>ppm mg/m³</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td></td>
</tr>
</tbody>
</table>

There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.

Oxygen (7782-44-7)

<table>
<thead>
<tr>
<th>OSHA PEL ppm</th>
<th>Cal/OSHA PEL (as of 4/26/13)</th>
<th>NIOSH REL (as of 4/26/13)</th>
<th>ACGIH 2015 TLV 8-hour TWA (ST) STEL ( C ) Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>ppm mg/m³</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td></td>
</tr>
</tbody>
</table>

There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.

Butane (106-97-8)

<table>
<thead>
<tr>
<th>OSHA PEL ppm</th>
<th>Cal/OSHA PEL (as of 4/26/13)</th>
<th>NIOSH REL (as of 4/26/13)</th>
<th>ACGIH 2015 TLV 8-hour TWA (ST) STEL ( C ) Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>ppm mg/m³</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td>8-hour TWA up to 10-hour TWA</td>
<td></td>
</tr>
</tbody>
</table>

There are no specific exposure limits for Nitrogen. Nitrogen is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.
Butane (1PPM-0.9999%) in Air (Oxygen 20.9% bal. Nitrogen)

8-hour TWA (ST) STEL (C) Ceiling
up to 10-hour TWA (ST) STEL (C) Ceiling
8-hour TWA (ST) STEL (C) Ceiling

8.2. Appropriate engineering controls
Engineering measures/controls: Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly check for leakages. Ensure exposure is below occupational exposure limits. Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities.

8.3. Individual protection measures
Skin and body protection: Wear suitable protective clothing, e.g.-Lab coats, coveralls or flame resistant clothing.
Respiratory protection: None necessary during normal and routine operations. See sections 5&6.
Thermal hazard protection: None necessary during normal and routine operations.
Environmental exposure controls: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information: Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection

9.1. Exposure controls
Appearance: Clear, colorless gas.
Physical state: Gas
Color: Colorless
Odor: No data available
Odor threshold: No data available
pH: No data available
Melting point: Not applicable for gas-mixtures.
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): Not Flammable - not combustible
Upper flammability: Not Flammable - not combustible
Lower flammability: Not Flammable - not combustible
Vapor pressure: Not applicable
Vapor density at 20°C: No data available
Relative density: No data available
Relative gas density: Heavier or similar to air
Solubility: No data available
Section 10. STABILITY AND REACTIVITY

10.1. Reactivity

No reactivity hazard other than the effects described below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available.

10.4. Conditions to avoid

No additional information available.

10.5. Incompatible materials

No additional information available.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Nitrogen (7727-37-9)

LC50 inhalation rat (ppm) 410,000 ppm/4h

Oxygen (7782-44-7)

LC50 inhalation rat (ppm) 400,000 ppm/4h

Butane (103-97-8)

LC50 inhalation rat (mg/l) 658 g/m³/4h
LC50 inhalation rat (ppm) 274,166.5 ppm/4h
ATE US (gases) 274,166.5 ppmV/4h
ATE US (vapor) 658.00 mg/l/4h
ATE US (dust, mist) 658.00 mg/l/4h

11.1. Information on routes of exposure

Inhalation : Not classified
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
Intravenous administration : Not known
Chronic symptoms : Adverse effects not expected from this product

11.2. Symptoms related to physical, chemical and toxicological characteristics

Symptoms Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure
11.3. Delayed and immediate effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not classified</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

11.4. Carcinogenic effects

The components of this material are not found on the following lists: FEDERAL OSHA Z LIST, NTP AND IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

Section 12. ECOLOGICAL INFORMATION

12.1. Aquatic Toxicity

Ecology - general : No ecological damage caused by this product

12.2. Persistence and degradability

No information available for the product

12.3. Bioaccumulative potential

No information available for the product

12.4. Mobility in soil

No information available for the product

12.5. Other

No information available for the product
Section 13. DISPOSAL CONSIDERATIONS

13.1. Disposal methods
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14. TRANSPORTATION INFORMATION

<table>
<thead>
<tr>
<th>UN #</th>
<th>US DOT</th>
<th>TDG</th>
<th>IMDG</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UN 1956</td>
<td>UN 1956</td>
<td>UN 1956</td>
<td>UN 1956</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Compressed gas, n.o.s. (Nitrogen, Oxygen)</td>
<td>Compressed gas, n.o.s. (Nitrogen, Oxygen)</td>
<td>Compressed gas, n.o.s. (Nitrogen, Oxygen)</td>
<td>Compressed gas, n.o.s. (Nitrogen, Oxygen)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Section 15. REGULATORY INFORMATION

15.1. US Federal regulations

SARA 311/312 hazard categories

Acute Health : No
Chronic Health : No
Fire : No
Pressure : Yes
Reactive : No

This product does not contain toxic chemicals subject to reporting requirements of section 313 of the Emergency planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

SARA 311/312 Sudden Release of Pressure Hazard

15.2. US State regulations

Nitrogen (007727-37-9)
U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Right To Know Hazardous Substance List
U.S. - New Jersey - Right To Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right To Know) List

Oxygen (007782-44-7)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right To Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right To Know) List
Section 16. OTHER INFORMATION

Date of issue/Date of revision: New SDS 3/1/2015
Revision Note: Initial release

Hazardous Material Information System (USA)
Hazard Scale: 0 = Minimal/ 1 = Slight/ 2 = Moderate/ 3 = Serious/ 4 = Severe
Health: 1
Fire: 0
Physical hazards: 3

Key/Legend
SARA Superfund Amendments and Reauthorization Act
OSHA Occupational Safety and Health Administration
DOT Department of Transportation
TSCA Toxic Substance Control Act
NTP National Toxicology Program
ACGIH American Conference of Governmental Industrial Hygienists
PEL Permissible Exposure Limit
STEL Short Term Exposure Limit
TLV Threshold Limit Value
TDG Transportation of Dangerous Goods
CAS Chemical Abstracts Service
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
IATA International Air Transport Association
IMDG International Maritime Dangerous Goods
TWA Time Weighted Average
Prop Proposition
ATE Acute Toxicity Estimate

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