1. IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Carbon Dioxide (Fire Extinguishing Agent and Expellant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Names</td>
<td>CO2</td>
</tr>
<tr>
<td>Recommended use of the chemical and restrictions on use</td>
<td></td>
</tr>
<tr>
<td>Identified uses</td>
<td>Fire Extinguishing Agent and Expellant</td>
</tr>
<tr>
<td>Restrictions on use</td>
<td>Consult applicable fire protection codes</td>
</tr>
<tr>
<td>Company Identification</td>
<td>Kidde Residential &amp; Commercial</td>
</tr>
<tr>
<td></td>
<td>1016 Corporate Park Drive</td>
</tr>
<tr>
<td></td>
<td>Mebane, NC 27302 USA</td>
</tr>
<tr>
<td>Customer Information Number</td>
<td>(919) 563-5911</td>
</tr>
<tr>
<td></td>
<td>(919) 304-8200</td>
</tr>
<tr>
<td>Emergency Telephone Number</td>
<td>(800) 424-9300</td>
</tr>
<tr>
<td></td>
<td>(703) 527-3887 (International)</td>
</tr>
<tr>
<td>Issue Date</td>
<td>October 1, 2015</td>
</tr>
<tr>
<td>Supersedes Date</td>
<td>April 10, 2015</td>
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</tbody>
</table>

Safety Data Sheet prepared in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Gas under pressure – liquefied gas
Simple Asphyxiant

Label Elements
Hazard Symbols

Signal Word: Warning

Hazard Statements
Contents under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements
Prevention
Do not enter confined space unless adequately ventilated.
In case of inadequate ventilation wear respiratory protection.
2. HAZARD IDENTIFICATION

Response
None

Storage
Keep container tightly closed.
Protect from sunlight and store in well-ventilated place.

Disposal
None

Other Hazards
Direct contact with the cold gas or liquid can cause freezing of exposed tissues. Avoid direct inhalation of undiluted gas. Can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations can cause dizziness, shortness of breath, unconsciousness or asphyxiation.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.
- Acute oral toxicity: 0%
- Acute dermal toxicity: 0%
- Acute inhalation toxicity: 0%
- Acute aquatic toxicity: 100%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: CO2
This product is a substance.

Component | CAS Number | Concentration
--- | --- | ---
Carbon Dioxide | 124-38-9 | >99.8%

4. FIRST-AID MEASURES

Description of necessary first-aid measures

Eyes
Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

Skin
Gently warm affected areas. Obtain medical attention if frostbite or blistering occurs or redness persists.

Ingestion
Ingestion is not considered a potential route of exposure.

Inhalation
Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

Most important symptoms/effects, acute and delayed
Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.
4. **FIRST- AID MEASURES**

   **Indication of immediate medical attention and special treatment needed**

   **Notes to Physicians**
   In case of frostbite, place the frostbitten part in warm water. If warm water is not available or impractical to use, wrap the affected parts gently in blankets. **DO NOT USE HOT WATER.**

5. **FIRE - FIGHTING MEASURES**

   **Suitable Extinguishing Media**
   Carbon Dioxide is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire.

   **Specific hazards arising from the chemical**
   Containers may explode in heat of fire.

   **Special Protective Actions for Fire-Fighters**
   Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. **ACCIDENTAL RELEASE MEASURES**

   **Personal precautions, protective equipment and emergency procedures**
   Remove leaking cylinder to a safe place. Ventilate the area. Leaks inside confined spaces may cause suffocation as oxygen is displaced and should not be entered without a self-contained breathing apparatus.

   **Environmental Precautions**
   None - Material is a normal atmospheric gas.

   **Methods and materials for containment and cleaning up**
   None - Material evaporates.

7. **HANDLING AND STORAGE**

   **Precautions for safe handling**
   Containers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll containers. Do not drop containers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the containers.

   **Conditions for safe storage**
   Store away from sources of heat or ignition. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Carbon Dioxide
ACGIH TLV: 5000 ppm (9000 mg/m³) STEL: 30,000 ppm (54,000 mg/m³)
OSHA PEL: 5000 ppm (9000 mg/m³)

Appropriate engineering controls
Use with adequate ventilation (natural or mechanical), especially in a confined space.

Individual protection measures
Respiratory Protection
Not normally required. In oxygen deficient atmospheres, use a self contained breathing apparatus, as an air purifying respirator will not provide protection.
Skin Protection
Gloves
Eye/Face Protection
Chemical goggles or safety glasses with side shields.
Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquefied gas under pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless to Slightly Acidic</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.522</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>-56.6°C/-69.8°F</td>
</tr>
<tr>
<td>Melting Point (°C/F)</td>
<td>-78.5°C/109.2°F (sublimation)</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>838 psig @70°F and 1 atmosphere</td>
</tr>
<tr>
<td>Evaporation Rate (BuAc=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Heavier than air.</td>
</tr>
<tr>
<td>VOC (%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Other physical properties

Viscosity
Not applicable
Auto-ignition Temperature
No data available
Decomposition Temperature
No data available
Upper explosive limit
Not explosive
Lower explosive limit
Not explosive
Flammability (solid, gas)
Not flammable
10. STABILITY AND REACTIVITY

Reactivity
Containers may rupture or explode if exposed to heat.

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Extremely high temperatures - contact with incompatible materials

Incompatible Materials
Powdered metals (ex. aluminum, zinc, etc.) - strong oxidizing agents – alkalis

Hazardous Decomposition Products
In contact with moisture will generate carbonic acid.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Simple asphyxiant. LClO (inhalation in humans): 90,000ppm/ 5 minutes.

Specific Target Organ Toxicity (STOT) – single exposure
Exposure to carbon dioxide vapor at high concentrations can cause loss of consciousness which may prove fatal due to suffocation as it displaces oxygen. Symptoms may include light headedness, dizziness, difficulty with breathing, drowsiness, nausea, mental confusion, increased blood pressure and increased respiratory rate.

Specific Target Organ Toxicity (STOT) – repeat exposure
No data available.

Serious Eye damage/Irritation
Direct contact with the cold gas or liquid can cause freezing of exposed tissues.

Skin Corrosion/Irritation
Direct contact with the cold gas or liquid can cause freezing of exposed tissues.

Respiratory or Skin Sensitization
Available data indicates this product is not expected to cause skin or respiratory sensitization.

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
Available data indicates this product is is not expected to be mutagenic.

Reproductive Toxicity
Available data indicates this product is not expected to cause reproductive toxicity or birth defects.
11. TOXICOLOGICAL INFORMATION

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
LC50 (Rainbow trout) 60mg/l 96 hr

Mobility in soil
Carbon dioxide occurs naturally in the atmosphere.

Persistence/Degradability
Carbon dioxide occurs naturally in the atmosphere.

Bioaccumulative Potential
Carbon dioxide occurs naturally in the atmosphere.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of container in accordance with all applicable local and national regulations. Do not cut puncture or weld on or near to the container. If spilled, contents will vaporize to the atmosphere.

14. TRANSPORT INFORMATION

Safety Data Sheet information is intended to address a specific material and not various forms or states of containment.

Special Precautions for Shipping:
Individuals must be certified as Hazardous Material Shipper for all transportation modes. Pressurized Fire Extinguishers are considered a hazardous material by the US Department of Transportation and Transport Canada.

Bulk Shipments:
DOT CFR 172.101 Data  Carbon Dioxide, 2.2, UN1013
UN Proper Shipping Name  Carbon Dioxide
UN Class  (2.2) Non-Flammable Gas
UN Number  UN1013
UN Packaging Group  Not Applicable
Classification for AIR  Consult current IATA Regulations prior to shipping by air.
Transportation (IATA) Classification for Water  Consult current IMDG Regulations prior to shipping by water.
Transport IMDG
14. TRANSPORT INFORMATION

Fire Extinguishers:

DOT CFR 172.101 Data                                      Fire extinguishers, 2.2, UN1044
  UN Proper Shipping Name                                  Fire extinguishers
  UN Class                                                 (2.2)
  UN Number                                                UN1044
  UN Packaging Group                                       Not applicable
  Classification for AIR                                  Consult current IATA Regulations prior to shipping by air.
  Transportation (IATA)                                  
  Classification for Water                                Consult current IMDG Regulations prior to shipping by water.

This section is believed to be accurate at the time of preparation. It is not intended to be a complete
statement or summary of the applicable laws, rules, or hazardous material regulations, and is subject to
change. Users have the responsibility to confirm compliance with all laws, rules, and hazardous material
regulations in effect at the time of shipping.

15. REGULATORY INFORMATION

United States TSCA Inventory
All components of this product are in compliance with the inventory listing requirements of the US Toxic
Substance Control Act (TSCA) Chemical Substance Inventory.

Canada DSL Inventory
All ingredients in this product have been verified for inclusion on the Domestic Substance List (DSL).

SARA Title III Sect. 311/312 Categorization
Pressure Hazard

SARA Title III Sect. 313
This product does not contain any chemicals listed in Section 313 at or above de minimis concentrations.

16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Health - 1
NFPA Code for Flammability - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – None

HMIS Ratings
HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Physical Hazard - 0
HMIS Code for Personal Protection - See Section 8
*Chronic
16. OTHER INFORMATION

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service
IARC: International Agency for Research on Cancer
LCLo: Lethal concentration low
N/A: Denotes no applicable information found or available
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value

Revision Date: October 1, 2015
Replaces: April 10, 2015
Changes made: Update to Section 14.

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

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