SAFETY DATA SHEET

1. IDENTIFICATION

Product code: C1706
Product Name: CARBAMIDE PEROXIDE, USP

Other means of identification
Synonyms:
- Urea Hydrogen Peroxide
- Urea Peroxide
- Carbonyl diamine peroxide
- Percarbamide
- Hydrogen peroxide carbamide
- Hydrogen Peroxide urea
- Urea dioxide
- Carbamide perhydrate
- Carbamide Peroxide
- Urea, compd. with hydrogen peroxide (1:1)

CAS #: 124-43-6
RTECS #: YT4860000
CI#: Not available

Recommended use of the chemical and restrictions on use
Recommended use:
- Laboratory reagent. Research and Development.

Uses advised against
No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency telephone number
Chemtrec 1-800-424-9300
Contact Person:
- Martin LaBenz (West Coast)
- Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

<table>
<thead>
<tr>
<th>Category</th>
<th>Skin corrosion/irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Serious eye damage/eye irritation</td>
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</tbody>
</table>

Preparation Date: 9/1/2015
Revision Date: 9/1/2015
Revision Number: G1
Specific target organ toxicity (single exposure) Category 3
Oxidizing solids Category 3

Label elements

Danger

Hazard statements
Causes severe skin burns and eye damage
May cause respiratory irritation
May intensify fire; oxidizer

Hazard statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep/Store away from clothing/ combustible materials
Take any precaution to avoid mixing with combustibles.

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
IN CASE OF FIRE: Use water to extinguish. Do not use dry chemicals or foams. CO2 or Halon may provide limited control.
IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Product code: C1706
Product name: CARBAMIDE PEROXIDE, USP
Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
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<tr>
<td>Carbamide Peroxide</td>
<td>124-43-6</td>
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4. FIRST AID MEASURES

First aid measures

General Advice: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact: Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed
Symptoms May cause chemical burns to the respiratory tract. Nose and throat irritation. Severe skin and eye irritation or burns. Can cause lung irritation. May cause inflammation and edema of the larynx and bronchi. May cause chemical pneumonitis. May cause pulmonary edema. Coughing and wheezing. Causes digestive (gastrointestinal) tract irritation. Can burn mouth, throat, and stomach. May cause gastrointestinal (digestive) tract burns.

Indication of any immediate medical attention and special treatment needed
Notes to Physician: Treat symptomatically

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.

Product code: C1706
Product name: CARBAMIDE PEROXIDE, USP

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon oxides, Nitrogen oxides

Specific hazards: Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.) The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Contact with finely divided (powdered) metals may cause ignition (fire) or explosion. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated

Special Protective Actions for Firefighters

Specific Methods: For large fires, flood fire area with water from a distance. Cool affected containers with flooding quantities of water. Do not get water inside containers. DO NOT use combustible materials such as sawdust.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. DO NOT use combustible materials such as sawdust. Keep combustibles (wood, paper, oil, clothing, etc.) away from spilled material.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel. Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions: Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice
Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapours/dust. Do not ingest. Keep away from combustible material. Handle in accordance with good industrial hygiene and safety practice.
**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

**Incompatible Materials:**

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

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<tr>
<th>Components</th>
<th>OSHA</th>
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<th>ACGIH</th>
<th>AIHA WHEEL</th>
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**Canada**

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**Australia and Mexico**

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<tr>
<td>124-43-6</td>
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</tbody>
</table>

**Appropriate engineering controls**

**Engineering measures to reduce exposure:** Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

**Eye protection:** Goggles

**Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.

**Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds), inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
Appearance: Crystalline powder.
Color: White.

Odor: Odorless.
Taste: No information available
Formula: CH6N2O3

Molecular/Formula weight: 94.07 g/mol
Flammability: No information available
Flashpoint (°C/°F): No information available.

Flash Point Tested according to: Not available
Autoignition Temperature (°C/°F): No information available
Lower Explosion Limit (%): No information available

Upper Explosion Limit (%): No information available
pH: 6.3
Melting point/range(°C/°F): 75-85 °C/167-185 °F

Decomposition temperature(°C/°F): 90-93°C/194-199°F
Boiling point/range(°C/°F): No information available
Bulk density: 0.6-0.7 g/l

Density (g/cm3): 1.39
Specific gravity: No information available
Vapor pressure @ 20°C (kPa): No information available

Evaporation rate: No information available
Vapor density: No information available
VOC content (g/L): No information available

Odor threshold (ppm): No information available
Partition coefficient (n-octanol/water): No information available
Viscosity: No information available

Miscibility: No information available
Solubility: Easily soluble in water
Solubility in Water: 500 g/l @ 20 deg. C; 730 g/l @ 40 deg. C; 970 g/l @ 60 deg. C

10. STABILITY AND REACTIVITY

Reactivity
Oxidizer. Reacts with reducing agents, organic material, combustible materials, and powdered metals

Chemical stability
Stability: Stable under recommended storage conditions. Sensitive to light. Exposure to light accelerates decomposition. Slowly decomposes on contact with air.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid:

Incompatible Materials:

Hazardous decomposition products:

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

Product code: C1706
Product name: CARBAMIDE PEROXIDE, USP
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Inhalation. Skin. Eyes. Ingestion.

Acute Toxicity

Component Information

Carbamide Peroxide - 124-43-6

LD50/oral/rat = No information available
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat = VALUE- Acute Tox Oral = No information available

LD50/oral/mouse = Value - Acute Tox Oral = No information available

LD50/dermal/rabbit VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Corrosive. Causes severe irritation and burns.

Eye Contact: Causes severe irritation and burns. Possible eye damage.

Inhalation Severe irritation to the upper respiratory tract. Causes respiratory tract (nose, throat, lungs), and mucous membrane irritation. May cause chemical burns to the respiratory tract. May cause chemical pneumonitis. May cause pulmonary edema, inflammation, edema of bronchi and larynx. Symptoms may include coughing and wheezing.
Ingestion
May cause severe and permanent damage to the digestive tract. Causes severe irritation and burns of the digestive tract.

Aspiration hazard
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity
No information available

Sensitization:
No information available

Mutagenic Effects:
No information available

Carcinogenic effects:
Not considered carcinogenic

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<tr>
<th>Components</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
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<td>Not listed</td>
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</table>

Reproductive toxicity
No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure
Respiratory Tract.

STOT - repeated exposure
No information available

Target Organs:
No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Carbamide Peroxide - 124-43-6

Freshwater Fish Species Data: 35 mg/L LC50 Leuciscus idus 48h
Water Flea Data: 7.7 mg/L EC50 Daphnia magna

Persistence and degradability:
No information available

Bioaccumulative potential:
No information available

Mobility:
No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Product code: C1706
Product name: CARBAMIDE PEROXIDE, USP
13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

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<tbody>
<tr>
<td>Carbamide Peroxide</td>
<td>None</td>
<td>None</td>
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</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: 8
Packing Group: III
ERG No: 140
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s):

TDG (Canada)
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: (8)
Packing Group: III
Marine Pollutant: No Information available

ADR
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Packing Group: III
Subsidiary Risk: 8

IMO / IMDG
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: 8
Packing Group: III
Marine Pollutant: No information available
EMS: F-A

RID
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: 8

Product code: C1706 Product name: CARBAMIDE PEROXIDE, USP
14. TRANSPORT INFORMATION

Packing Group: III

ICAO
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: 8
Packing Group: III

IATA
UN-No: UN1511
Proper Shipping Name: Urea hydrogen peroxide
Hazard Class: 5.1
Subsidiary Risk: 8
Packing Group: III
ERG Code: 5C
Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
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<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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<td>Present KE-35147</td>
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<td>Present</td>
<td>Present</td>
<td>Present 204-701-4</td>
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U.S. Regulations

Carbamide Peroxide

New Jersey RTK Hazardous Substance List: 1985


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

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<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
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CERCLA/SARA

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<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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U.S. TSCA

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<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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<tbody>
<tr>
<td>Carbamide Peroxide</td>
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</table>
Canada

WHMIS hazard class:
C Oxidizing materials
E Corrosive material

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

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<table>
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<tr>
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<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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<tbody>
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EU Classification

R-phrase(s)
R 8 - Contact with combustible material may cause fire.
R34 - Causes burns.

S-phrase(s)
S17 - Keep away from combustible material.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

<table>
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<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
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The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
C - Corrosive.
O - Oxidising.

Product code: C1706  Product name: CARBAMIDE PEROXIDE, USP
Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet