

## 1. Identification

|                                                        |                                                                                            |                 |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------|-----------------|
| Product identifier                                     | Dexbrompheniramine Maleate                                                                 |                 |
| Other means of identification                          |                                                                                            |                 |
| Catalog number                                         | 1178002                                                                                    |                 |
| Chemical name                                          | 2-Pyridinepropanamine, gamma-(4-bromophenyl)-N,N-dimethyl-, (S)-, (Z)-2-butenedioate (1:1) |                 |
| Synonym(s)                                             | Brompheniramine D-form Maleate                                                             |                 |
| Recommended use                                        | Specified quality tests and assay use only.                                                |                 |
| Recommended restrictions                               | Not for use as a drug. Not for administration to humans or animals.                        |                 |
| Manufacturer/Importer/Supplier/Distributor information |                                                                                            |                 |
| Company name                                           | U. S. Pharmacopeia                                                                         |                 |
| Address                                                | 12601 Twinbrook Parkway<br>Rockville<br>MD<br>20852-1790<br>US                             |                 |
| Telephone                                              | RS Technical Services                                                                      | 301-816-8129    |
| Website                                                | www.usp.org                                                                                |                 |
| E-mail                                                 | RSTECH@usp.org                                                                             |                 |
| Emergency phone number                                 | CHEMTREC within US & Canada                                                                | 1-800-424-9300  |
|                                                        | CHEMTREC outside US & Canada                                                               | +1 703-527-3887 |

## 2. Hazard(s) identification

|                         |                                                                                                                                                                                                                 |            |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| <b>Note</b>             | This product is supplied in a small quantity which does not constitute a combustible dust hazard. The physical properties of this material indicate that in large quantities accumulated dust may be hazardous. |            |
| <b>Physical hazards</b> | Not classified.                                                                                                                                                                                                 |            |
| <b>Health hazards</b>   | Acute toxicity, oral                                                                                                                                                                                            | Category 3 |
|                         | Acute toxicity, inhalation                                                                                                                                                                                      | Category 4 |
|                         | Skin corrosion/irritation                                                                                                                                                                                       | Category 1 |
|                         | Serious eye damage/eye irritation                                                                                                                                                                               | Category 1 |
| <b>OSHA hazard(s)</b>   | Not classified.                                                                                                                                                                                                 |            |
| <b>Label elements</b>   |                                                                                                                                                                                                                 |            |



|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Signal word</b>                               | Danger                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Hazard statement</b>                          | Toxic if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage.                                                                                                                                                                                                                                                                                                                                                      |  |
| <b>Precautionary statement</b>                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Prevention</b>                                | Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.                                                                                                                                                                                                                                                                                                       |  |
| <b>Response</b>                                  | If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If swallowed: Rinse mouth. Do NOT induce vomiting. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed: Immediately call a poison center/doctor. |  |
| <b>Storage</b>                                   | Store locked up.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| <b>Disposal</b>                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.                                                                                                                                                                                                                                                                                                                                                              |  |
| <b>Hazard(s) not otherwise classified (HNOC)</b> | Not classified.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |

### 3. Composition/information on ingredients

#### Substance

#### Hazardous components

| Chemical name              | Common name and synonyms       | CAS number | %   |
|----------------------------|--------------------------------|------------|-----|
| Dexbrompheniramine Maleate | Brompheniramine D-form Maleate | 2391-03-9  | 100 |

### 4. First-aid measures

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation                                                             | If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Skin contact                                                           | Rinse skin with water/shower. Get medical attention if irritation develops and persists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Eye contact                                                            | Rinse with water. Get medical attention if irritation develops and persists.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Ingestion                                                              | Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Most important symptoms/effects, acute and delayed                     | Corrosive effects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Indication of immediate medical attention and special treatment needed | Treatment of antihistamine overdose should be symptomatic and supportive and may include the following: Administer activated charcoal as a slurry. Ipecac-induced vomiting is not recommended because of the potential for CNS depression and seizures. For sinus tachyarrhythmias, treatment is rarely needed. In agitated patients, sedation with benzodiazepines will generally control tachycardia. If severe tachycardia results in hemodynamic compromise or ischemia, beta blocking agents may be used as a temporizing measure. For torsades de pointes, hemodynamically unstable patients require electrical cardioversion. Treat stable patients with magnesium, isoproterenol, and/or atrial overdrive pacing. Correct electrolyte abnormalities. For seizures, administer a benzodiazepine IV, such as diazepam or lorazepam. Consider phenobarbital or propofol if seizures recur after diazepam. Monitor for hypotension, dysrhythmias, respiratory depression, and need for endotracheal intubation. Evaluate for hypoglycemia, electrolyte disturbances, and hypoxia. For hypotension: Infuse isotonic fluid. If hypotension persists, administer dopamine or norepinephrine and titrate to desired response. For dystonia, treat with oral or intravenous diazepam. For agitation, administer intravenous benzodiazepines. For hyperthermia, sponge patient with tepid water and use fans to maximize evaporative heat loss. Avoid phenothiazines. If severe hyperthermia develops, neuromuscular paralysis may be necessary. [Meditext 2009]. |
| General information                                                    | Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

### 5. Fire-fighting measures

|                                                               |                                                                                                                                                                                  |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                                  | Water spray, dry chemical, carbon dioxide, or foam as appropriate for surrounding fire and materials.                                                                            |
| Unsuitable extinguishing media                                | None known.                                                                                                                                                                      |
| Specific hazards arising from the chemical                    | Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. |
| Special protective equipment and precautions for firefighters | Wear suitable protective equipment.                                                                                                                                              |
| Fire-fighting equipment/instructions                          | As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.                                        |
| Specific methods                                              | Cool containers exposed to flames with water until well after the fire is out.                                                                                                   |

### 6. Accidental release measures

|                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation. Wear appropriate personal protective equipment. |
| Methods and materials for containment and cleaning up               | Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid the generation of dusts during clean-up. For waste disposal, see section 13 of the SDS. Wash spill site.                                                                                                                                                                                                                                                     |

## 7. Handling and storage

### Precautions for safe handling

Combustible dust clouds may be created where operations produce fine material (dust). As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Use of a designated area is recommended for handling of potent materials.

### Conditions for safe storage, including any incompatibilities

Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

## 8. Exposure controls/personal protection

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

No exposure standards allocated.

### Appropriate engineering controls

Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure. Local exhaust ventilation is generally preferred to general exhaust because it can control the contaminant at its source, preventing dispersion into the work area. An industrial hygiene survey involving air monitoring may be used to determine the effectiveness of engineering controls. Effectiveness of engineering controls intended for use with highly potent materials should be assessed by use of nontoxic surrogate materials.

Avoid any open handling of this material, particularly for grinding, crushing, weighing or other dust-generating or aerosol-generating procedures. Use a laboratory fume hood, vented enclosure, glovebox, or other effective containment.

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

#### Eye/face protection

Safety glasses with sideshields are recommended. Face shields or goggles may be required if splash potential exists or if corrosive materials are present. Approved eye protection (e.g., bearing the ANSI Z87 or CSA stamp) is preferred. Maintain eyewash facilities in the work area.

#### Skin protection

##### Hand protection

Chemically compatible gloves. For handling solutions, ensure that the glove material is protective against the solvent being used. Use handling practices that minimize direct hand contact. Employees who are sensitive to natural rubber (latex) should use nitrile or other synthetic nonlatex gloves. Use of powdered latex gloves should be avoided due to the risk of latex allergy. This material is corrosive. To reduce the risk of contamination of skin and surfaces, wear two pairs of gloves. Remove the outer gloves after handling and cleanup of the material, and remove the inner gloves only after removing other personal protective equipment.

##### Other

For handling of laboratory scale quantities, a cloth lab coat is recommended. Where significant quantities are handled, work clothing may be necessary to prevent take-home contamination.

#### Respiratory protection

Where respirators are deemed necessary to reduce or control occupational exposures, use NIOSH-approved respiratory protection and have an effective respirator program in place (applicable U.S. regulation OSHA 29 CFR 1910.134).

#### Thermal hazards

Not available.

### General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

White crystalline powder.

#### Physical state

Solid.

#### Form

Powder.

### Odor

Odorless.

### Odor threshold

Not available.

### pH

4.8 - 5

### Melting point/freezing point

217.4 - 235.4 °F (103 - 113 °C)

### Flash point

Not available.

### Evaporation rate

Not available.

### Flammability (solid, gas)

Not applicable.

### Upper/lower flammability or explosive limits

#### Flammability limit - lower (%)

Not available.

#### Flammability limit - upper (%)

Not available.

#### Explosive limit - lower (%)

Not available.

#### Explosive limit - upper (%)

Not available.

### Vapor pressure

Not available.

|                                            |                                                           |
|--------------------------------------------|-----------------------------------------------------------|
| Vapor density                              | Not available.                                            |
| Relative density                           | Not available.                                            |
| Solubility in water                        | Freely soluble.                                           |
| Partition coefficient (n-octanol/water)    | Not available.                                            |
| Auto-ignition temperature                  | 734 - 752 °F (390 - 400 °C)                               |
| Decomposition temperature                  | Not available.                                            |
| Viscosity                                  | Not available.                                            |
| <b>Other information</b>                   |                                                           |
| Chemical family                            | Propylamine derivative.                                   |
| <b>Dust explosion properties</b>           |                                                           |
| Kst                                        | 153 bar.m/s                                               |
| Minimum ignition energy (MIE) - dust cloud | 20 - 25 mJ                                                |
| Molecular formula                          | C16H19BrN2 . C4H4O4                                       |
| Molecular weight                           | 435.31                                                    |
| Potential for dust explosion               | Weak/moderate explosion hazard.                           |
| Solubility (other)                         | Soluble in ethanol and in chloroform; insoluble in ether. |

## 10. Stability and reactivity

|                                    |                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------|
| Reactivity                         | No reactivity hazards known.                                                               |
| Chemical stability                 | Material is stable under normal conditions.                                                |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use.                                |
| Conditions to avoid                | None known.                                                                                |
| Incompatible materials             | Oxidizers. Bases. Strong acids.                                                            |
| Hazardous decomposition products   | Br-. NOx. Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions. |

## 11. Toxicological information

### Information on likely routes of exposure

|              |                                                   |
|--------------|---------------------------------------------------|
| Ingestion    | Toxic if swallowed. Causes digestive tract burns. |
| Inhalation   | Harmful if inhaled.                               |
| Skin contact | Causes severe skin burns.                         |
| Eye contact  | Causes serious eye damage.                        |

**Symptoms related to the physical, chemical, and toxicological characteristics** Blindness. Drowsiness. Sore throat. Fever. Bleeding or bruising. Tiredness. Weakness. Fast heartbeat. Irregular heartbeat. Stomach pain. Chills. Clay-colored stools. Dark urine. Diarrhea. Headache. Itching. Nightmares. Excitement. Nervousness. Restlessness. Difficulty breathing. Difficulty sleeping. Irritability. Skin rash. Dilated pupils. Clumsiness. Flushing. Fainting. Hallucinations. Seizures.

**Delayed and immediate effects of exposure** Central nervous system stimulation. Coma. Respiratory failure.

**Cross sensitivity** Persons sensitive to other antihistamines may be sensitive to this material also.

**Medical conditions aggravated by exposure** Cardiovascular disease. Endocrine disorders. Liver disease. Bladder neck obstruction. Enlarged prostate gland. Urinary retention. Glaucoma. Active alcoholism.

**Acute toxicity** Toxic if swallowed. Harmful if inhaled.

| Product                                    | Species                                  | Test Results |
|--------------------------------------------|------------------------------------------|--------------|
| Dexbrompheniramine Maleate (CAS 2391-03-9) |                                          |              |
| <i>Inhalation</i>                          |                                          |              |
| LC50                                       | Rat                                      | 3.4 mg/l/4h  |
| <i>Oral</i>                                |                                          |              |
| LD50                                       | Mouse                                    | 176 mg/kg    |
|                                            | Rat                                      | 191 mg/kg    |
| <b>Skin corrosion/irritation</b>           | Causes severe skin burns and eye damage. |              |

|                                                                                 |                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Serious eye damage/eye irritation</b>                                        | Causes serious eye damage.                                                                                                                                                                                 |
| <b>Local effects</b>                                                            |                                                                                                                                                                                                            |
| Irritation test                                                                 |                                                                                                                                                                                                            |
| Result: Irritant.                                                               |                                                                                                                                                                                                            |
| Species: Rabbit                                                                 |                                                                                                                                                                                                            |
| Organ: Eye.                                                                     |                                                                                                                                                                                                            |
| Severity: Corrosive.                                                            |                                                                                                                                                                                                            |
| Irritation test                                                                 |                                                                                                                                                                                                            |
| Result: Irritant.                                                               |                                                                                                                                                                                                            |
| Species: Rabbit                                                                 |                                                                                                                                                                                                            |
| Organ: Skin.                                                                    |                                                                                                                                                                                                            |
| Severity: Corrosive.                                                            |                                                                                                                                                                                                            |
| <b>Respiratory sensitization</b>                                                | Due to lack of data the classification is not possible.                                                                                                                                                    |
| <b>Skin sensitization</b>                                                       | Due to lack of data the classification is not possible.                                                                                                                                                    |
| <b>Germ cell mutagenicity</b>                                                   | Due to lack of data the classification is not possible.                                                                                                                                                    |
| <b>Carcinogenicity</b>                                                          | Due to lack of data the classification is not possible. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.                                                                    |
| <b>Reproductive toxicity</b>                                                    | Due to lack of data the classification is not possible. Brompheniramine maleate has been associated with an increased frequency of birth defects in humans.                                                |
| <b>Specific target organ toxicity - single exposure</b>                         | Due to lack of data the classification is not possible.                                                                                                                                                    |
| <b>Specific target organ toxicity - repeated exposure</b>                       | Due to lack of data the classification is not possible.                                                                                                                                                    |
| <b>Aspiration hazard</b>                                                        | Based on available data, the classification criteria are not met.                                                                                                                                          |
| <b>12. Ecological information</b>                                               |                                                                                                                                                                                                            |
| <b>Ecotoxicity</b>                                                              | No ecotoxicity data noted for the ingredient(s).                                                                                                                                                           |
| <b>Persistence and degradability</b>                                            | No data is available on the degradability of this product.                                                                                                                                                 |
| <b>Bioaccumulative potential</b>                                                | Not available.                                                                                                                                                                                             |
| <b>Mobility in soil</b>                                                         | Not available.                                                                                                                                                                                             |
| <b>Other adverse effects</b>                                                    | Not available.                                                                                                                                                                                             |
| <b>13. Disposal considerations</b>                                              |                                                                                                                                                                                                            |
| <b>Disposal instructions</b>                                                    | Dispose in accordance with all applicable regulations.                                                                                                                                                     |
| <b>Local disposal regulations</b>                                               | Not available.                                                                                                                                                                                             |
| <b>Hazardous waste code</b>                                                     | Not available.                                                                                                                                                                                             |
| <b>Waste from residues / unused products</b>                                    | Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).                                            |
| <b>Contaminated packaging</b>                                                   | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |
| <b>14. Transport information</b>                                                |                                                                                                                                                                                                            |
| <b>DOT</b>                                                                      |                                                                                                                                                                                                            |
| <b>UN number</b>                                                                | UN2923                                                                                                                                                                                                     |
| <b>UN proper shipping name</b>                                                  | Corrosive solid, toxic, n.o.s. (Dexbrompheniramine Maleate)                                                                                                                                                |
| <b>Transport hazard class(es)</b>                                               | 8                                                                                                                                                                                                          |
| <b>Subsidiary class(es)</b>                                                     | 6.1                                                                                                                                                                                                        |
| <b>Packing group</b>                                                            | II                                                                                                                                                                                                         |
| <b>IATA</b>                                                                     |                                                                                                                                                                                                            |
| <b>UN number</b>                                                                | UN2923                                                                                                                                                                                                     |
| <b>UN proper shipping name</b>                                                  | Corrosive solid, toxic, n.o.s. (Dexbrompheniramine Maleate)                                                                                                                                                |
| <b>Transport hazard class(es)</b>                                               | 8                                                                                                                                                                                                          |
| <b>Subsidiary class(es)</b>                                                     | 6.1                                                                                                                                                                                                        |
| <b>Packaging group</b>                                                          | II                                                                                                                                                                                                         |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | No information available.                                                                                                                                                                                  |

DOT



IATA



## 15. Regulatory information

### US federal regulations

CERCLA/SARA Hazardous Substances - Not applicable.

One or more components are not listed on TSCA.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

No

#### SARA 311/312 Hazardous chemical

No

### Other federal regulations

#### Safe Drinking Water Act (SDWA)

Not regulated.

#### Food and Drug Administration (FDA)

Not regulated.

### US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

### International Inventories

#### Country(s) or region

#### Inventory name

#### On inventory (yes/no)\*

|                             |                                                                        |     |
|-----------------------------|------------------------------------------------------------------------|-----|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | No  |
| Canada                      | Domestic Substances List (DSL)                                         | Yes |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | No  |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | No  |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No  |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | Yes |
| Korea                       | Existing Chemicals List (ECL)                                          | No  |
| New Zealand                 | New Zealand Inventory                                                  | No  |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | No  |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                          | No  |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

## 16. Other information, including date of preparation or last revision

### Issue date

08-17-2009

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Revision date</b>        | 07-09-2015                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Version #</b>            | 03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Further information</b>  | Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Disclaimer</b>           | USP Reference Standards are sold for chemical test and assay purposes only, and NOT for human consumption. The information contained herein is applicable solely to the chemical substance when used as a USP Reference Standard and does not necessarily relate to any other use of the substance described, (i.e. at different concentrations, in drug dosage forms, or in bulk quantities). USP Reference Standards are intended for use by persons having technical skill and at their own discretion and risk. This information has been developed by USP staff from sources considered reliable but has not been independently verified by the USP. Therefore, the USP Convention cannot guarantee the accuracy of the information in these sources nor should the statements contained herein be considered an official expression. NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE is made with respect to the information contained herein. |
| <b>Revision Information</b> | Hazard(s) identification: <INDENT>Response<br>Hazard(s) identification: <INDENT>Prevention<br>Physical & Chemical Properties: Multiple Properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |