# Material Safety Data Sheet

Detergent 200

## 1. Product and company identification

| | | |
|---|---|---|
| **Product name** | : | Detergent 200 |
| **Supplier** | : | Betco Corporation<br>1001 Brown Avenue<br>Toledo, Ohio 43607<br>(800) 333-2156 |
| **Manufacturer** | : | Betco Corporation<br>1001 Brown Avenue<br>Toledo, Ohio 43607 |
| **Code** | : | 471 |
| **MSDS #** | : | 471 |
| **Validation date** | : | 9/28/2012. |
| **Print date** | : | 9/28/2012. |
| **In case of emergency** | : | Chemtrec (800) 424-9300 |
| **Product type** | : | Liquid. |

## 2. Hazards identification

**Emergency overview**

| | | |
|---|---|---|
| **Physical state** | : | Liquid. |
| **Color** | : | Violet. |
| **Odor** | : | Pleasant. |
| **Signal word** | : | WARNING! |
| **Hazard statements** | : | HARMFUL IF SWALLOWED. CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. |
| **Precautionary measures** | : | Do not breathe vapor or mist. Do not ingest. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. |
| **OSHA/HCS status** | : | This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| **Routes of entry** | : | Dermal contact. Eye contact. Ingestion. |

**Potential acute health effects**

| | | |
|---|---|---|
| **Inhalation** | : | Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| **Ingestion** | : | Toxic if swallowed. |
| **Skin** | : | Moderately irritating to the skin. |
| **Eyes** | : | Severely irritating to eyes. Risk of serious damage to eyes. |

**Potential chronic health effects**

| | | |
|---|---|---|
| **Chronic effects** | : | Contains material that may cause target organ damage, based on animal data. |
| **Carcinogenicity** | : | No known significant effects or critical hazards. |
| **Mutagenicity** | : | No known significant effects or critical hazards. |
| **Teratogenicity** | : | No known significant effects or critical hazards. |
| **Developmental effects** | : | No known significant effects or critical hazards. |
| **Fertility effects** | : | No known significant effects or critical hazards. |
| **Target organs** | : | Contains material which may cause damage to the following organs: blood, kidneys, liver, spleen, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea. |

## 2. Hazards identification

**Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

**See toxicological information (Section 11)**

## 3. Composition/information on ingredients

| Name | CAS number | % |
|---|---|---|
| sodium dodecylbenzenesulfonate | 25155-30-0 | 5 - 10 |
| Alkyl(C9-11) alcohol, ethoxylated | 68439-46-3 | 1 - 5 |
| propane-1,2-diol | 57-55-6 | 1 - 5 |
| sodium dodecyl sulphate | 151-21-3 | 1 - 5 |
| Isopropanol | 67-63-0 | 1 - 5 |

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

## 4. First aid measures

**Eye contact** Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately. In case of contact with eyes, rinse immediately with plenty of water.

**Skin contact** In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Protection of first-aiders** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

## 5. Fire-fighting measures

**Flammability of the product** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Extinguishing media**

**Suitable** : Use an extinguishing agent suitable for the surrounding fire.

**Not suitable** : None known.

**Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
metal oxide/oxides

## 5. Fire-fighting measures

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

| Ingredient | Exposure limits |
|---|---|
| propane-1,2-diol | **AIHA WEEL (United States, 5/2010).**<br>TWA: 10 mg/m³ 8 hour(s). |
| Isopropanol | **ACGIH TLV (United States, 2/2010).**<br>TWA: 200 ppm 8 hour(s).<br>STEL: 400 ppm 15 minute(s).<br>**OSHA PEL 1989 (United States, 3/1989).**<br>TWA: 400 ppm 8 hour(s).<br>TWA: 980 mg/m³ 8 hour(s).<br>STEL: 500 ppm 15 minute(s).<br>STEL: 1225 mg/m³ 15 minute(s).<br>**NIOSH REL (United States, 6/2009).** |

## 8. Exposure controls/personal protection

| | |
|---|---|
| | TWA: 400 ppm 10 hour(s).<br>TWA: 980 mg/m³ 10 hour(s).<br>STEL: 500 ppm 15 minute(s).<br>STEL: 1225 mg/m³ 15 minute(s).<br>**OSHA PEL (United States, 6/2010).**<br>TWA: 400 ppm 8 hour(s).<br>TWA: 980 mg/m³ 8 hour(s). |

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

**Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal protection**

**Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 1-4 hours (breakthrough time): butyl rubber

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: safety glasses

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Personal protective equipment (Pictograms)** :

## 9. Physical and chemical properties

**Physical state** : Liquid.

**Flash point** : Closed cup: Not applicable. [Product does not sustain combustion.]

**Color** : Violet.

**Odor** : Pleasant.

**pH** : 8.5 to 9.5

**Relative density** : 1.0432

**Dispersibility properties** : Easily dispersible in the following materials: cold water and hot water.

**Solubility** : Easily soluble in the following materials: cold water and hot water.

# 10. Stability and reactivity

**Chemical stability** : The product is stable.

**Conditions to avoid** : No specific data.

**Incompatible materials** : No specific data.

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

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

# 11. Toxicological information

## Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|---|---|---|---|---|
| sodium dodecylbenzenesulfonate | LC50 Inhalation Vapor | Rat | 310 mg/m3 | 4 hours |
| | LD50 Oral | Rat | 438 mg/kg | - |
| Isopropanol | LD50 Dermal | Rabbit | 12800 mg/kg | - |
| | LD50 Oral | Rat | 5000 mg/kg | - |
| Alkyl(C9-11) alcohol, ethoxylated | LD50 Dermal | Rabbit | >2 g/kg | - |
| | LD50 Oral | Rat | 1378 mg/kg | - |
| propane-1,2-diol | LD50 Dermal | Rabbit | 20800 mg/kg | - |
| | LD50 Oral | Rat | 20 g/kg | - |
| sodium dodecyl sulphate | LD50 Oral | Rat | 1288 mg/kg | - |

**Conclusion/Summary** : Not available.

## Chronic toxicity

**Conclusion/Summary** : Not available.

## Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|---|---|---|---|---|
| sodium dodecylbenzenesulfonate | Eyes - Severe irritant | Rabbit | - | 24 hours 250 Micrograms | - |
| | Eyes - Severe irritant | Rabbit | - | 1 Percent | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Isopropanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |
| | Eyes - Severe irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |
| propane-1,2-diol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Moderate irritant | Child | - | 96 hours 30 Percent continuous | - |
| | Skin - Mild irritant | Human | - | 168 hours 500 milligrams | - |
| | Skin - Moderate irritant | Human | - | 72 hours 104 milligrams Intermittent | - |
| | Skin - Mild irritant | Woman | - | 96 hours 30 Percent | - |
| sodium dodecyl sulphate | Eyes - Mild irritant | Rabbit | - | 250 | - |

# 11. Toxicological information

| | | | | | |
|---|---|---|---|---|---|
| | | | | Micrograms | |
| | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 10 milligrams | - |
| | Skin - Mild irritant | Dog | - | 24 hours 25 milligrams | - |
| | Skin - Mild irritant | Guinea pig | - | 24 hours 25 milligrams | - |
| | Skin - Mild irritant | Human | - | 2 hours 2 Percent | - |
| | Skin - Mild irritant | Human | - | 504 hours 0.3 Percent | - |
| | Skin - Mild irritant | Human | - | 24 hours 0.06 Percent | - |
| | Skin - Mild irritant | Human | - | 22 hours 10 Percent | - |
| | Skin - Mild irritant | Human | - | 47 hours 0.5 Percent | - |
| | Skin - Mild irritant | Human | - | 18 hours 2 Percent | - |
| | Skin - Moderate irritant | Human | - | 48 hours 3 Percent | - |
| | Skin - Moderate irritant | Human | - | 24 hours 0.1 Percent | - |
| | Skin - Moderate irritant | Mouse | - | 24 hours 25 milligrams | - |
| | Skin - Mild irritant | Pig | - | 24 hours 25 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 50 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 25 milligrams | - |

**Conclusion/Summary** : Not available.

**Sensitizer**

**Conclusion/Summary** : Not available.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Classification**

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|---|---|---|---|---|---|---|
| Isopropanol | A4 | 3 | - | - | - | - |

**Mutagenicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

# 12. Ecological information

**Ecotoxicity** : No known significant effects or critical hazards.

**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|---|---|---|---|
| sodium dodecylbenzenesulfonate | Acute EC50 29000 ug/L Fresh water | Algae - Chlorella pyrenoidosa - Exponential growth phase | 96 hours |
| | Acute EC50 7.81 mg/L Fresh water | Crustaceans - Ceriodaphnia dubia - Neonate - <24 hours | 48 hours |
| | Acute EC50 5.88 ppm Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute IC50 112.4 mg/L | Algae - Pseudokirchneriella subcapitata - Exponential growth phase | 72 hours |
| | Acute LC50 1.18 ppm Fresh water | Fish - Lepomis macrochirus | 96 hours |
| Isopropanol | Acute LC50 1400000 ug/L Marine water | Crustaceans - Crangon crangon | 48 hours |
| | Acute LC50 >1400000 ug/L | Fish - Gambusia affinis - 20 to 30 mm | 96 hours |
| Alkyl(C9-11) alcohol, ethoxylated | Acute EC50 2686 ug/L Fresh water | Daphnia - Daphnia magna - Neonate - <24 hours | 48 hours |
| | Acute LC50 8500 ug/L Fresh water | Fish - Pimephales promelas | 96 hours |
| propane-1,2-diol | Acute EC50 >1000 mg/L Fresh water | Daphnia - Daphnia magna - <24 hours | 48 hours |
| | Acute LC50 1020000 ug/L Fresh water | Crustaceans - Ceriodaphnia dubia - <=24 hours | 48 hours |
| | Acute LC50 710000 ug/L Fresh water | Fish - Pimephales promelas - <=7 days | 96 hours |
| sodium dodecyl sulphate | Acute EC50 1200 ug/L Marine water | Algae - Skeletonema costatum | 96 hours |
| | Acute LC50 900 ug/L Marine water | Crustaceans - Artemia salina - Adult - 25 days - 3.5 to 4.5 mm | 48 hours |
| | Acute LC50 1400 ug/L Fresh water | Daphnia - Daphnia pulex - Neonate | 48 hours |
| | Acute LC50 590 ug/L Fresh water | Fish - Cirrhinus mrigala - Larvae - 2 days - 4.5 mm - 51 mg | 96 hours |
| | Chronic NOEC 3.2 mg/L Fresh water | Daphnia - Daphnia magna - Neonate - <24 hours | 21 days |
| | Chronic NOEC >1357 ug/L Fresh water | Fish - Pimephales promelas - 7 days post-hatch | 42 days |

**Conclusion/Summary** : Not available.

**Persistence/degradability**

**Conclusion/Summary** : Not available.

# 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

# 14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |
| Mexico Classification | Not regulated. | - | - | - | | - |
| ADR/RID Class | Not regulated. | - | - | - | | - |
| IMDG Class | Not regulated. | - | - | - | | - |
| IATA-DGR Class | Not regulated. | - | - | - | | - |

PG* : Packing group

# 15. Regulatory information

**HCS Classification** : Toxic material
Irritating material
Target organ effects

**U.S. Federal regulations** : **TSCA 8(a) PAIR**: 2-(4-tert-butylbenzyl)propionaldehyde
**TSCA 8(a) IUR Exempt/Partial exemption**: Not determined
**United States inventory (TSCA 8b)**: Not determined.
**TSCA 8(d) H and S data reporting**: 2-(4-tert-butylbenzyl)propionaldehyde

**SARA 302/304/311/312 extremely hazardous substances**: No products were found.
**SARA 302/304 emergency planning and notification**: No products were found.
**SARA 302/304/311/312 hazardous chemicals**: sodium dodecyl sulphate; propane-1,2-diol; Isopropanol; sodium dodecylbenzenesulfonate
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: sodium dodecyl sulphate: Immediate (acute) health hazard, Delayed (chronic) health hazard; propane-1,2-diol: Immediate (acute) health hazard, Delayed (chronic) health hazard; Isopropanol: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard; sodium dodecylbenzenesulfonate: Immediate (acute) health hazard

**Clean Water Act (CWA) 311**: sodium dodecylbenzenesulfonate; Sodium hydroxide; Formaldehyde

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 313**

# 15. Regulatory information

| | Product name | CAS number | Concentration |
|---|---|---|---|
| **Form R - Reporting requirements** | Isopropanol | 67-63-0 | 1 - 5 |
| **Supplier notification** | Isopropanol | 67-63-0 | 1 - 5 |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**State regulations**

**Massachusetts** : The following components are listed: SODIUM DODECYLBENZENE SULFONATE; ISOPROPYL ALCOHOL; Sodium Hydroxide Solution

**New York** : The following components are listed: Dodecylbenzene sulfonate

**New Jersey** : The following components are listed: SODIUM DODECYLBENZENE SULFONATE; BENZENESULFONIC ACID, DODECYL-, SODIUM SALT; ISOPROPYL ALCOHOL; 2-PROPANOL; Sodium Hydroxide Solution; PROPYLENE GLYCOL; 1,2-PROPANEDIOL

**Pennsylvania** : The following components are listed: BENZENESULFONIC ACID, DODECYL-, SODIUM SALT; 2-PROPANOL; Sodium Hydroxide Solution; 1,2-PROPANEDIOL

**California Prop. 65**

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|---|---|---|---|---|
| Formaldehyde | Yes. | No. | Yes. | No. |

**Canada inventory** : Not determined.

**International regulations**

**International lists** : **Australia inventory (AICS)**: Not determined.
**China inventory (IECSC)**: Not determined.
**Japan inventory**: Not determined.
**Korea inventory**: Not determined.
**New Zealand Inventory of Chemicals (NZIoC)**: Not determined.
**Philippines inventory (PICCS)**: Not determined.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

# 16. Other information

**Label requirements** : HARMFUL IF SWALLOWED. CAUSES EYE IRRITATION. MAY CAUSE SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.

**Hazardous Material Information System (U.S.A.)** :

| | | |
|---|---|---|
| Health | * | 2 |
| Flammability | | 0 |
| Physical hazards | | 0 |

# 16. Other information

**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.**

**The customer is responsible for determining the PPE code for this material.**

**National Fire Protection Association (U.S.A.)** :

**Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.**

**Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.**

| | | |
|---|---|---|
| **Date of printing** | : | **9/28/2012.** |
| **Date of issue** | : | 9/28/2012. |
| **Date of previous issue** | : | 2/24/2012. |
| **Version** | : | 0.04 |
| **Prepared by** | : | Not available. |

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.**
**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**