SAFETY DATA SHEET

# Foaming Shampoo & Body Wash

| Version | Revision Date: | MSDS Number: | Date of last issue: - |
|---|---|---|---|
| 1.0 | 03/18/2015 | 77271-00001 | Date of first issue: 03/18/2015 |

## SECTION 1. IDENTIFICATION

Product name : Foaming Shampoo & Body Wash

**Manufacturer or supplier's details**

Company name of supplier : J.R. Watkins Inc.

Address : 150 Liberty Street
Winona MN 55987-0570

Telephone : 1-800-243-9423

Emergency telephone : 507-457-3300

**Recommended use of the chemical and restrictions on use**

Recommended use : Shampoo

Restrictions on use : This is a personal care or cosmetic product that is safe for consumers and other users under normal and reasonably foreseeable use. Cosmetics and consumer products, specifically defined by regulations around the world, are exempt from the requirement of an SDS for the consumer. While this material is not considered hazardous, this SDS contains valuable information critical to the safe handling and proper use of the product for industrial workplace conditions as well as unusual and unintended exposures such as large spills. This SDS should be retained and available for employees and other users of this product. For specific intended-use guidance, please refer to the information provided on the package or instruction sheet.

## SECTION 2. HAZARDS IDENTIFICATION

**GHS Classification**

Eye irritation : Category 2A

**GHS Label element**

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**
P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face protection.
**Response:**
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Other hazards**

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Hazardous ingredients**

| Chemical Name | CAS-No. | Concentration (%) |
|---|---|---|
| Sulfuric acid, mono-C12-18-alkyl esters, sodium salts | 68955-19-1 | >= 1 - < 5 |
| D-Glucopyranose, Oligomeric, C8-10 Glycosides | 68515-73-1 | >= 1 - < 5 |
| Glycerine | 56-81-5 | >= 1 - < 5 |
| Fragrance Grapefruit | Not Assigned | >= 0.1 - < 1 |

## SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Wash with water and soap as a precaution.
Get medical attention if symptoms occur.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and delayed : Causes serious eye irritation.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

| | | |
|---|---|---|
| Notes to physician | : | Treat symptomatically and supportively. |

## SECTION 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Suitable extinguishing media | : | Water spray<br>Alcohol-resistant foam<br>Dry chemical<br>Carbon dioxide (CO2) |
| Unsuitable extinguishing media | : | None known. |
| Specific hazards during fire fighting | : | Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides<br>Metal oxides<br>Sulfur oxides |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for fire-fighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice and personal protective equipment recommendations. |
| Environmental precautions | : | Discharge into the environment must be avoided.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g. by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for containment and cleaning up | : | Soak up with inert absorbent material.<br>For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.<br>Clean up remaining materials from spill with suitable absorbent.<br>Local or national regulations may apply to releases and disposal of this material, as well as those materials and items |

employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

## SECTION 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use only with adequate ventilation.

Advice on safe handling : Avoid inhalation of vapor or mist.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Handle in accordance with good industrial hygiene and safety practice.
Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labeled containers.
Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Ingredients with workplace control parameters**

| Ingredients | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| Glycerine | 56-81-5 | TWA (mist, respirable fraction) | 5 mg/m3 | OSHA Z-1 |
| | | TWA (mist, total dust) | 15 mg/m3 | OSHA Z-1 |

**Hazardous components without workplace control parameters**

| Ingredients | CAS-No. |
|---|---|
| Sulfuric acid, mono-C12-18-alkyl esters, sodium salts | 68955-19-1 |
| D-Glucopyranose, Oligomeric, C8-10 Glycosides | 68515-73-1 |
| Fragrance Grapefruit | Not Assigned |

**Engineering measures** : Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

**Personal protective equipment**

| | | |
|---|---|---|
| Respiratory protection | : | General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection. |
| Hand protection | | |
| Material | : | Impervious gloves |
| Remarks | : | Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. |
| Eye protection | : | Wear the following personal protective equipment:<br>Safety goggles |
| Skin and body protection | : | Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.<br>Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc). |
| Hygiene measures | : | Ensure that eye flushing systems and safety showers are located close to the working place.<br>When using do not eat, drink or smoke.<br>Wash contaminated clothing before re-use. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | liquid |
| Color | : | clear, colorless, brown |
| Odor | : | citrus |
| Odor Threshold | : | No data available |
| pH | : | 4.0 - 6.0 |
| Melting point/freezing point | : | No data available |

| | | |
|---|---|---|
| Initial boiling point and boiling range | : | No data available |
| Flash point | : | > 100 °C |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Upper explosion limit | : | No data available |
| Lower explosion limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density | : | No data available |
| Density | : | 1 g/cm3 |
| Solubility(ies) | | |
| Water solubility | : | soluble |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Autoignition temperature | : | No data available |
| Decomposition temperature | : | The substance or mixture is not classified self-reactive. |
| Viscosity | | |
| Viscosity, kinematic | : | 10 - 20 mm2/s (20 °C) |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |

## SECTION 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Can react with strong oxidizing agents. |
| Conditions to avoid | : | None known. |
| Incompatible materials | : | Oxidizing agents |
| Hazardous decomposition products | : | No hazardous decomposition products are known. |

## SECTION 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**
Inhalation
Skin contact
Ingestion
Eye contact

**Acute toxicity**

Not classified based on available information.

**Product:**

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Acute oral toxicity : LD50 (Rat): 4,010 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**
Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

**Glycerine:**
Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Result: No skin irritation

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

**Glycerine:**
Result: No skin irritation

**Fragrance Grapefruit:**
Result: Mild skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Product:**

Result: Irritation to eyes, reversing within 21 days

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Species: Rabbit
Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**
Species: Rabbit
Result: Irreversible effects on the eye
Method: OECD Test Guideline 405
Remarks: Based on data from similar materials

**Glycerine:**
Result: No eye irritation

**Fragrance Grapefruit:**
Result: Irritation to eyes, reversing within 7 days

**Respiratory or skin sensitization**

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

**Product:**

Assessment: Does not cause skin sensitization.

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Test Type: Buehler Test
Routes of exposure: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**
Test Type: Maximization Test (GPMT)
Routes of exposure: Skin contact
Species: Guinea pig
Method: Directive 67/548/EEC, Annex V, B.6.
Result: negative

**Fragrance Grapefruit:**
Assessment: Probability or evidence of skin sensitization in humans

**Germ cell mutagenicity**

Not classified based on available information.

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative

**Glycerine:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative
Remarks: Based on data from similar materials

**Glycerine:**
Species: Rat
Application Route: Ingestion
Exposure time: 2 Years
Result: negative

**IARC** No ingredient of this product present at levels greater than or

equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

Not classified based on available information.

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

**Glycerine:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Result: negative

**STOT-single exposure**

Not classified based on available information.

**Ingredients:**

**Fragrance Grapefruit:**

Assessment: May cause respiratory irritation.

**STOT-repeated exposure**

Not classified based on available information.

**Ingredients:**

**Fragrance Grapefruit:**
Routes of exposure: Ingestion
Target Organs: Kidney
Assessment: Shown to produce significant health effects in animals at concentrations of >10 to 100 mg/kg bw.

**Repeated dose toxicity**

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**
Species: Rat
NOAEL: 488 mg/kg
Application Route: Ingestion
Exposure time: 13 w
Remarks: Based on data from similar materials

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**
Species: Rat
NOAEL: 100 mg/kg
Application Route: Ingestion
Exposure time: 90 d
Method: Directive 67/548/EEC, Annex V, B.26.
Remarks: Based on data from similar materials

**Glycerine:**
Species: Rat
NOAEL: 167 mg/m3
LOAEL: 660 mg/m3
Application Route: inhalation (dust/mist/fume)
Exposure time: 13 w
Symptoms: Local irritation

**Aspiration toxicity**

Not classified based on available information.

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Danio rerio (zebra fish)): 1.3 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other | : | EC50 (Daphnia magna (Water flea)): 2.8 mg/l |

| | | |
|---|---|---|
| aquatic invertebrates | | Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae | : | EC50 (Desmodesmus subspicatus (green algae)): 20 mg/l<br>Exposure time: 72 h<br>Method: Directive 67/548/EEC, Annex V, C.3.<br><br>EC10 (Desmodesmus subspicatus (green algae)): 7.6 mg/l<br>Exposure time: 72 h<br>Method: Directive 67/548/EEC, Annex V, C.3. |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Pimephales promelas (fathead minnow)): 0.35 mg/l<br>Exposure time: 34 d<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 1.8 mg/l<br>Exposure time: 21 d |
| Toxicity to bacteria | : | EC50: 689 mg/l<br>Exposure time: 3 h<br>Remarks: Based on data from similar materials |

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Danio rerio (zebra fish)): 126 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 100 mg/l<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae | : | EC50 (Desmodesmus subspicatus (green algae)): 27.22 mg/l<br>Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): 1.8 mg/l<br>Exposure time: 28 d<br>Method: OECD Test Guideline 204<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EC10 (Daphnia): 1.76 mg/l<br>Exposure time: 21 d<br>Remarks: Based on data from similar materials |
| Toxicity to bacteria | : | EC50 (Pseudomonas putida): > 560 mg/l<br>Exposure time: 6 h |

**Glycerine:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 54,000 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 1,955 mg/l<br>Exposure time: 48 h |
| Toxicity to bacteria | : | NOEC (Pseudomonas putida): > 10,000 mg/l<br>Exposure time: 16 h |

**Persistence and degradability**

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d
Method: Directive 67/548/EEC Annex V, C.4.C.

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301E

**Glycerine:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 94 %
Exposure time: 1 d

**Bioaccumulative potential**

**Ingredients:**

**Sulfuric acid, mono-C12-18-alkyl esters, sodium salts:**

Partition coefficient: n-octanol/water : log Pow: 1.41

**D-Glucopyranose, Oligomeric, C8-10 Glycosides:**

Partition coefficient: n-octanol/water : log Pow: 1.72

**Glycerine:**

Partition coefficient: n-octanol/water : log Pow: -1.76

**Mobility in soil**

No data available

**Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

## SECTION 14. TRANSPORT INFORMATION

**International Regulation**

**UNRTDG**
Not regulated as a dangerous good

**IATA-DGR**
Not regulated as a dangerous good

**IMDG-Code**
Not regulated as a dangerous good

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

**Domestic regulation**

**49 CFR**
Not regulated as a dangerous good

## SECTION 15. REGULATORY INFORMATION

**EPCRA - Emergency Planning and Community Right-to-Know**

**CERCLA Reportable Quantity**

| Ingredients | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|---|---|---|---|
| Benzoic acid | 65-85-0 | 5000 | * |

*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**US State Regulations**

**Pennsylvania Right To Know**

| | | |
|---|---|---|
| Water | 7732-18-5 | 90 - 100 % |
| Sulfuric acid, mono-C12-18-alkyl esters, sodium salts | 68955-19-1 | 1 - 5 % |
| Glycerine | 56-81-5 | 1 - 5 % |
| 2-Phenoxyethanol | 122-99-6 | 0.1 - 1 % |
| Benzoic acid | 65-85-0 | 0 - 0.1 % |

**New Jersey Right To Know**

| | | |
|---|---|---|
| Water | 7732-18-5 | 90 - 100 % |
| Sulfuric acid, mono-C12-18-alkyl esters, sodium salts | 68955-19-1 | 1 - 5 % |
| D-Glucopyranose, Oligomeric, C8-10 Glycosides | 68515-73-1 | 1 - 5 % |
| Glycerine | 56-81-5 | 1 - 5 % |

**California Prop 65** This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**The ingredients of this product are reported in the following inventories:**

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

AICS : All ingredients listed or exempt.

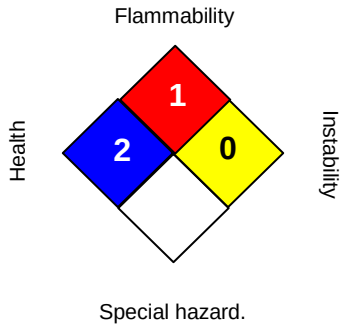
**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

## SECTION 16. OTHER INFORMATION

### Further information

**NFPA:**




**HMIS III:**

| | |
|---|---|
| HEALTH | 2 |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

### Full text of other abbreviations

| | | |
|---|---|---|
| OSHA Z-1 | : | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| OSHA Z-1 / TWA | : | 8-hour time weighted average |
| Sources of key data used to compile the Material Safety Data Sheet | : | Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/ |
| Revision Date | : | 03/18/2015 |

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8