# SAFETY DATA SHEET

**Brother's Orange Peel** 

## **Section 1. Identification**

**GHS** product identifier : Brother's Orange Peel

**Product type** : Liquid

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier's details : Brother's Manufacturing

10900 60TH Street N. Grant, MN 55082 Phone: 651-646-1696

**Emergency telephone** number (with hours of

operation)

: 800-843-6174 (24 Hours)

## Section 2. Hazards identification

**OSHA/HCS** status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 2

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A

SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2

**GHS label elements** 

**Hazard pictograms** 







Signal word

: Warning

**Hazard statements** 

: Flammable liquid and vapor. Causes serious eye irritation. Causes skin irritation.

May cause an allergic skin reaction. Suspected of causing cancer.

**Precautionary statements** 

**General** 

: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Wear eye or face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Avoid breathing vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 1/12

## Section 2. Hazards identification

Response

: IF exposed or concerned: Get medical attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage Disposal** 

- : Store locked up. Store in a well-ventilated place. Keep cool.
- Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

: None known.

## Section 3. Composition/information on ingredients

Substance/mixture Other means of identification

: Mixture : Not available

#### **CAS** number/other identifiers

**CAS** number : Not applicable

Ingredient name	%	CAS number
Coconut oil diethanolamide	10 - 30	68603-42-9
d-Limonene	5 - 10	5989-27-5
4-Nonylphenol, branched, ethoxylated	5 - 10	127087-87-0
Diethanolamine	0 - 1	111-42-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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.

Occupational exposure limits, if available, are listed in Section 8.

# Section 4. First aid measures

## **Description of necessary first aid measures**

Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 2/12

## Section 4. First aid measures

#### Ingestion

: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

#### Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

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

**Skin contact**: Causes skin irritation. May cause an allergic skin reaction.

**Ingestion**: Irritating to mouth, throat and stomach.

#### Over-exposure signs/symptoms

**Eye contact**: Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

**Skin contact**: Adverse symptoms may include the following:

irritation redness

**Ingestion**: No specific data.

## Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician

: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** 

: No specific treatment.

**Protection of first-aiders** 

: No action shall be taken involving any personal risk or without suitable training. 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.

#### See toxicological information (Section 11)

# Section 5. Fire-fighting measures

#### **Extinguishing media**

Suitable extinguishing

media

: Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable extinguishing** 

media

: Do not use water jet.

Specific hazards arising from the chemical

: Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 3/12

## Section 5. Fire-fighting measures

## **Hazardous thermal** decomposition products

Decomposition products may include the following materials: carbon dioxide carbon monoxide

sulfur oxides metal oxide/oxides

## **Special protective actions** for fire-fighters

: 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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

## **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.

## Section 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

#### **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 and materials for containment and cleaning up

**Small spill** 

: Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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.

# Section 7. Handling and storage

#### Precautions for safe handling

**Protective measures** 

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 4/12

# Section 7. Handling and storage

tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

## **Advice on general** occupational hygiene

: 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. See also Section 8 for additional information on hygiene measures.

# including any incompatibilities

**Conditions for safe storage**, : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. 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.

# Section 8. Exposure controls/personal protection

#### **Control parameters**

#### Occupational exposure limits

Exposure limits		
OSHA PEL 1989 (United States, 3/1989) TWA: 3 ppm 8 hours. TWA: 15 mg/m³ 8 hours.		
NIOSH REL (United States, 10/2013). TWA: 3 ppm 10 hours. TWA: 15 mg/m³ 10 hours.		
ACGIH TLV (United States, 6/2013).  Absorbed through skin.  TWA: 1 mg/m³ 8 hours. Form: Inhalable fraction and vapor		

#### **Appropriate engineering** controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### **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.

## **Individual protection measures**

**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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version: 0.01 5/12

# Section 8. Exposure controls/personal protection

### **Eye/face protection**

: 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### **Skin protection**

**Hand protection** 

: 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** 

: 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. When there is a risk of ignition from static electricity, wear antistatic protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** 

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.

## Section 9. Physical and chemical properties

**Appearance** 

**Physical state** : Liquid Color : Light Yellow

Odor : Citrus

**Odor threshold** Not available pН : 8.8 to 9.5 **Melting point** : 0°C (32°F) **Boiling point** : 100°C (212°F)

: Closed cup: 51°C (123.8°F) [No sustained combustion under required test conditions Flash point

listed in DOT 173.120(3).1

**Evaporation rate** : Not available Flammability (solid, gas) Not available Lower and upper explosive : Not available

(flammable) limits

Vapor pressure : <4 kPa (<30 mm Hg) [room temperature]

Vapor density : <1 [Air = 1] **Specific gravity** : 0.99 g/cm<sup>3</sup> Solubility : Not available

Partition coefficient: n-

octanol/water

: Not available

**Auto-ignition temperature** : Not available **Viscosity** Not available

**VOC** content : 10%

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 6/12

# Section 9. Physical and chemical properties

VOCs are calculated following the requirements under 40 CFR, Part 59, Subpart C for Consumer Products and Subpart D for Architectural Coatings.

## Section 10. Stability and reactivity

Reactivity

: No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** 

: The product is stable.

Possibility of hazardous reactions

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

**Conditions to avoid** 

: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible materials** 

: Reactive or incompatible with the following materials: oxidizing materials

Hazardous decomposition products

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

# **Section 11. Toxicological information**

## **Information on toxicological effects**

## **Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
Coconut oil diethanolamide	LD50 Dermal	Rabbit	12200 mg/kg	-
	LD50 Oral	Rat	1600 mg/kg	-
d-Limonene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	4400 mg/kg	-
4-Nonylphenol, branched, ethoxylated	LD50 Dermal	Rabbit	2830 mg/kg	-
,	LD50 Oral	Rat	1410 mg/kg	-
Diethanolamine	LD50 Dermal	Rabbit	12200 mg/kg	-
	LD50 Oral	Rat	710 mg/kg	-

#### **Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Observation
Coconut oil diethanolamide	Eyes - Severe irritant	Rabbit	-	100 microliters	-
	Skin - Moderate irritant	Rabbit	-	300 microliters	-
d-Limonene	Skin - Mild irritant	Rabbit	-	24 hours 10 Percent	-
Diethanolamine	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	5500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	50 milligrams	-

## **Sensitization**

Not available.

#### **Mutagenicity**

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 7/12

# Section 11. Toxicological information

Not available

### Carcinogenicity

Not available.

## **Classification**

Product/ingredient name	OSHA	IARC	NTP
Coconut oil diethanolamide	-	2B	-
d-Limonene	-	3	-
Diethanolamine	-	2B	-

### **Reproductive toxicity**

Not available.

## **Teratogenicity**

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

## Specific target organ toxicity (repeated exposure)

Not available.

## **Aspiration hazard**

Name	Result
d-Limonene	ASPIRATION HAZARD - Category 1

Information on the likely

routes of exposure

: Not available

#### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

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

**Skin contact**: Causes skin irritation. May cause an allergic skin reaction.

**Ingestion**: Irritating to mouth, throat and stomach.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : Adverse symptoms may include the following:

pain or irritation watering redness

Inhalation : No specific data.

**Skin contact**: Adverse symptoms may include the following:

irritation redness

**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Short term exposure** 

Potential immediate

effects

: Not available

Potential delayed effects : Not available

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 8/12

# Section 11. Toxicological information

### Long term exposure

**Potential immediate** 

: Not available

effects

Potential delayed effects : Not available

### Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of

exposure.

: No known significant effects or critical hazards. Mutagenicity : No known significant effects or critical hazards. **Teratogenicity Developmental effects** : No known significant effects or critical hazards. **Fertility effects** : No known significant effects or critical hazards.

## **Numerical measures of toxicity**

### **Acute toxicity estimates**

Route	ATE value
Oral	7706.4 mg/kg
Dermal	50302.2 mg/kg

# Section 12. Ecological information

## **Toxicity**

Product/ingredient name	Result	Species	Exposure
d-Limonene	Acute EC50 421 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 688 μg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Diethanolamine	Acute EC50 12 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 28800 μg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 2150 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling)	96 hours

## Persistence and degradability

Not available.

## **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
d-Limonene	4.38	1022	high
Diethanolamine	-1.43		low

## **Mobility in soil**

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01
---

# Section 12. Ecological information

Soil/water partition coefficient (Koc)

Other adverse effects : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** 

: The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

# **Section 14. Transport information**

	DOT Classification	IMDG	IATA
UN number	Not regulated	Not regulated	Not regulated
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	No sustained combustion under required test conditions listed in DOT 173.120(3).	No sustained combustion under required test conditions listed in IMDG Chapter 2.3.1.3.	No sustained combustion under required test conditions listed in IATA Chapter 3.3.1.3.

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according : Not available. to Annex II of MARPOL 73/78 and the IBC Code

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 10/12

## **Section 15. Regulatory information**

**U.S. Federal regulations** 

: United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112

: Not listed

(b) Hazardous Air Pollutants (HAPs) SARA 311/312

Classification : Fire hazard

Immediate (acute) health hazard Delayed (chronic) health hazard

## **Composition/information on ingredients**

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Coconut oil diethanolamide d-Limonene	10 - 30 5 - 10	No. Yes.	No. No.	No. No.	Yes. Yes.	Yes. No.
4-Nonylphenol, branched, ethoxylated Diethanolamine	-	No. No.	No.	No. No.	Yes. Yes.	No. Yes.

## **State regulations**

## California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	Maximum acceptable dosage level
Coconut oil diethanolamide Diethanolamine			No. No.

#### **International regulations**

**Canada inventory** 

: All components are listed or exempted.

# **Section 16. Other information**

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



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 SDSs 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.)**



Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 11/12

## Section 16. Other information

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.

## **History**

Date of printing : 12/9/2014.

Date of issue/Date of : 12/9/2014.

revision

Date of previous issue : No previous validation.

Key to abbreviations

: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships,

1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

**UN = United Nations** 

References

: 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.

Date of issue/Date of revision : 12/9/2014. Date of previous issue : No previous validation. Version : 0.01 12/12