

# Safety Data Sheet DRI-TEK

ether; butoksyetylowy alcohol (polish)

### 1. Product and company identification

Product name

: DRI-TEK

**Synonym** 

: bucs; butoksyetylowy alkohol (polish); 2-butossi-etanolo (italian); 2-butoxy-aethanol (german); butoxyethanol; n-butoxyethanol; 2-butoxyethanol; 2-butoxy-1-ethanol; butyl cellosolve; o-butyl ethylene glycol; butyl glycol; butylglycol (french,german); butyl oxitol; dowanol eb; ethylene glycol n-butyl ether; ethylene glycol, monobutyl ether; gafcol eb; glycol butyl ether; glycol monobutyl ether; monobutyl ether of ethylene glycol; monobutyl glycol ether; 3-oxa-1-heptanol; poly-solv eb; ethanol,2-butoxy-; ethylene glycol monobutyl

INCI Name : BUTOXYETHANOL

**CAS number** : 111-76-2

Material uses : Petrochemical industry: Fuel additive.

Other non-specified industry: SOLVENT FOR NITROCELLULOSE RESINS; SPRAY LACQUERS: QUICK-DRYING LACQUERS: VARNISHES:

SPRAY LACQUERS; QUICK-DRYING LACQUERS; VARNISHES; ENAMELS; DRYCLEANING COMPOUNDS; VARNISH REMOVERS; TEXTILE (PREVENTING SPOTTING IN PRINTING OR DYEING);

MUTUAL SOLVENT FOR "SOLUBLE" MINERAL OILS TO HOLD SOAP IN SOLUTION AND TO IMPROVE THE EMULSIFYING PROPERTIES.

Internal code : IFS0015
System code : IFS0015
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Supplier : Innospec Fuel Specialties LLC

8310 South Valley Highway

Suite 350 Englewood CO, 80112 USA

Information contact : 1-800-441-9547

e-mail address of person responsible

for this SDS

: sdsinfo@innospecinc.com

NON-emergency enquiries : corporatecommunications@innospecinc.com

#### **Emergency telephone number**

In USA, Canada and North America, 24 hour / 7 day emergency information for our product is provided by the CHEMTREC® Emergency Call Center based in the USA

Country information : Emergency telephone number

USA, Canada, Puerto Rico, Virgin Islands : +1 800 424 9300 In case of difficulties, or for ships at sea : +1 703 527 3887

### Product and company identification

In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network



The main regional centres are listed here in Section 1.

Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

**Country information** : Emergency telephone number Location

South America (all countries) +1 215 207 0061 Philadelphia USA

Brazil +55 11 3197 5891 Brazil Mexico +52 555 004 8763 Mexico Europe (all countries) Middle East, Africa (French, Portuguese, English) +44 (0) 1235 239 670 London, UK : +44 (0) 1235 239 671 London, UK

Middle East, Africa (Arabic, French, English, Portuguese,

Farsi)

Asia Pacific (all countries except China) +65 3158 1074 Singapore China 400 120 6011 Beijing China

### 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 : ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4

SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A

**GHS** label elements

**Hazard pictograms** 



Signal word : Warning

**Hazard statements** : H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.

H319 - Causes serious eye irritation.

H315 - Causes skin irritation.

**Precautionary statements** 

**Prevention** 

: P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

P271 - Use only outdoors or in a well-ventilated area.

P261 - Avoid breathing vapor.

P270 - Do not eat, drink or smoke when using this product.

P264 - Wash hands thoroughly after handling.

Response

: P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable

for breathing. Call a POISON CENTER or physician if you feel unwell.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you

feel unwell. Rinse mouth.

P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing

and wash it before reuse.

P332 + P313 - If skin irritation occurs: Get medical attention.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

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### Section 2. Hazards identification

Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.

Storage Disposal : Not applicable.

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified

: None known.

**Target organs** 

: Causes damage to the following organs: blood, kidneys, liver, lymphatic system, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea. May cause damage to the following organs: eyes.

See toxicological information (Section 11)

### Section 3. Composition/information on ingredients

Substance/mixture

: Substance

**Chemical name** 

: 2-butoxyethanol

Other means of identification

: bucs; butoksyetylowy alkohol (polish); 2-butossi-etanolo (italian); 2-butoxy-aethanol (german); butoxyethanol; n-butoxyethanol; 2-butoxyethanol; 2-butoxy-1-ethanol; butyl cellosolve; o-butyl ethylene glycol; butyl glycol; butylglycol (french,german); butyl oxitol; dowanol eb; ethylene glycol n-butyl ether; ethylene glycol, monobutyl ether; gafcol eb; glycol butyl ether; glycol monobutyl ether; monobutyl ether of ethylene glycol; monobutyl glycol ether; 3-oxa-1-heptanol; poly-solv eb; ethanol,2-butoxy-; ethylene glycol monobutyl ether; butoksyetylowy alcohol (polish)

Ingredient name%CAS number☑-butoxyethanol; butyl cellosolve99 - 100111-76-2

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

**Additional information** 

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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 adverse health effects persist or are severe. If necessary, call a poison center or physician. 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.

### Section 4. First aid measures

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. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. If necessary, call a poison center or physician. 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 : Harmful if inhaled.

**Skin contact**: Harmful in contact with skin. Causes skin irritation.

Ingestion : Harmful if swallowed.

### 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. 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.

See toxicological information (Section 11)

### Section 5. Fire-fighting measures

### **Extinguishing media**

Suitable extinguishing

media

: Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing** 

media

: None known.

### Section 5. Fire-fighting measures

Specific hazards arising from the chemical

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

**Hazardous thermal** decomposition products : Decomposition products may include the following materials: carbon dioxide carbon monoxide

**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.

**Special protective** equipment for fire-fighters Flash point

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

Closed cup: 65.556°C (150°F) [Pensky-Martens.] Open cup: 61.85°C (143.3°F)

### 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. 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 specialized 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. 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.

### Section 7. Handling and storage

#### Precautions for safe handling

**Protective measures** 

: Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.

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### Section 7. Handling and storage

# 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.

# Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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

Ingredient name	Exposure limits
<b>2</b> -butoxyethanol; butyl cellosolve	ACGIH TLV (United States, 3/2018). TWA: 20 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.
	TWA: 25 ppm 8 hours. TWA: 120 mg/m³ 8 hours.  NIOSH REL (United States, 10/2016). Absorbed through skin. TWA: 5 ppm 10 hours. TWA: 24 mg/m³ 10 hours.  OSHA PEL (United States, 5/2018). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 240 mg/m³ 8 hours.
2-butoxyethanol; butyl cellosolve	OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.  TWA: 25 ppm, 0 times per shift, 8 hours.  TWA: 120 mg/m³, 0 times per shift, 8 hours.  NIOSH REL (United States, 10/2016). Absorbed through skin.  TWA: 5 ppm, 0 times per shift, 10 hours.  TWA: 24 mg/m³, 0 times per shift, 10 hours.  ACGIH TLV (United States, 3/2019).  TWA: 20 ppm, 0 times per shift, 8 hours.  OSHA PEL (United States, 5/2018). Absorbed through skin.  TWA: 50 ppm, 0 times per shift, 8 hours.  TWA: 240 mg/m³, 0 times per shift, 8 hours.

## 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.

# **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**

### Section 8. Exposure controls/personal protection

**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.

**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.

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** 

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

### Section 9. Physical and chemical properties

**Appearance** 

Physical state : Liquid. [COLORLESS LIQUID]

Color : Colorless.

Odor : MILD, ETHER-LIKE ODOR

Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : -74.8°C (-102.6°F)

**Boiling point** : 168.4 to 170.85°C (335.1 to 339.5°F)

Flash point : Closed cup: 65.556°C (150°F) [Pensky-Martens.]

Open cup: 61.85°C (143.3°F)

**Evaporation rate** : 0.072 compared with butyl acetate

Flammability (solid, gas) : Not available.

Lower and upper explosive

(flammable) limits

: Lower: 1.1% Upper: 10.6%

Vapor pressure : 0.08 kPa (0.6 mm Hg) (at 20°C)

**Vapor density** : 4.07 (Air = 1)

**Density** : 0.903 g/cm³ [20°C (68°F)]

Specific gravity : 0.9

DRI-TEK

### Section 9. Physical and chemical properties

Density : 7.514 lbs/gal

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

Partition coefficient: n-

octanol/water

: Not available.

Auto-ignition temperature : 244°C (471.2°F)

Decomposition temperature : Not available.

Viscosity : Not available.

### 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 : 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.

### **Section 11. Toxicological information**

### Information on toxicological effects

#### **Acute toxicity**

Product/ingredient name	Test	Species	Result	Dose
2-butoxyethanol; butyl cellosolve	-	Rat	LD50 Oral	250 mg/kg -
2-butoxyethanol; butyl cellosolve	-	Rat	LC50 Inhalation Vapor	450 ppm 4 hours

#### Potential chronic health effects

Not available.

### **Irritation/Corrosion**

Product/ingredient name	Test	Species	Result
2-butoxyethanol; butyl cellosolve	-	Rabbit	Eyes - Moderate irritant -
	-		Eyes - Severe irritant - Skin - Mild irritant -

#### **Sensitization**

Not available.

### **Mutagenicity**

Not available.

#### **Carcinogenicity**

**Classification** 

DRI-TEK

### **Section 11. Toxicological information**

Product/ingredient name	OSHA	IARC	NTP
2-butoxyethanol; butyl cellosolve	-	3	-

### 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**

Not available.

### Section 12. Ecological information

#### **Toxicity**

Product/ingredient name	Result	Species	Exposure
2-butoxyethanol; butyl cellosolve	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1490 mg/l Chronic NOEC 1000 mg/l Fresh water	Fish Daphnia - Daphnia magna	96 hours 48 hours

### Persistence and degradability

#### **Bioaccumulative potential**

Product/ingredient name	LogPow	BCF	Potential
2-butoxyethanol; butyl cellosolve	0.83	-	low

### Section 13. Disposal considerations

: 2020-09-03

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. 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	NA1993	Not regulated.	Not regulated.
UN proper shipping name	Combustible liquid, n.o.s. (2-butoxyethanol)	-	-
Transport hazard class(es)	Combustible liquid.	-	-
Packing group	III	-	-
Environmental hazards	No.	No.	No.
Additional information	Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.  Limited quantity Yes.  Packaging instruction  Exceptions: 150. Non-bulk: 203. Bulk: 241.  Quantity limitation Passenger aircraft/rail: 60 L. Cargo aircraft: 220 L.  Special provisions IB3, T4, TP1	-	

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.

### **Section 15. Regulatory information**

**U.S. Federal regulations** : United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 Listed

(b) Hazardous Air **Pollutants (HAPs) SARA 302/304** 

**Composition/information on ingredients** 

No products were found.

**SARA 311/312** 

Classification : Immediate (acute) health hazard

**Composition/information on ingredients** 

### **Section 15. Regulatory information**

Name	%	Fire hazard	Sudden release of pressure		(acute) health	Delayed (chronic) health hazard
2-butoxyethanol; butyl cellosolve	60 - 100	Yes.	No.	No.	Yes.	No.

#### **SARA 313**

	Product name	CAS number	%
Form R - Reporting requirements	2-butoxyethanol	111-76-2	60 - 100
Supplier notification	2-butoxyethanol	111-76-2	60 - 100

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

#### **State regulations**

Massachusetts : The following components are listed: 2-BUTOXYETHANOL

**New York**: None of the components are listed.

New Jersey : The following components are listed: 2-BUTOXY ETHANOL; BUTYL CELLOSOLVE

Pennsylvania: The following components are listed: ETHANOL, 2-BUTOXY-

California Prop. 65: This product does not require a Safe Harbor warning under California Prop. 65.

#### **International lists**

**National inventory** 

Australia inventory (AICS)

**Philippines inventory (PICCS)** 

**United States inventory (TSCA 8b)** 

Korea inventory (KECI)

Taiwan inventory (TCSI)

**Canada inventory** 

**China inventory (IECSC)** 

**Europe inventory** 

Japan inventory

: All components are listed or exempted.

All components are listed or exempted.

: All components are listed or exempted.

: All components are listed or exempted.

: Japan inventory (ENCS): All components are listed or

exempted.

Japan inventory (ISHL): Not determined.

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

: All components are listed or exempted.

All components are listed or exempted.

: All components are listed or exempted.

: All components are listed or exempted.

Our REACH (pre-) registrations DO NOT cover the following:

1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and

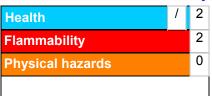
- In the case of importation only, to make use of the "Only Representative" provisions, if available.

<sup>2.</sup> The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our (pre-) registrations Customers and other third parties importing and/or re-importing our products into Europe will need either:

<sup>-</sup> Their own (pre-) registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or

### 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 and the associated label are not required on SDSs or products leaving a facility 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 trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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



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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**

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**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 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the

Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

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.