

SAFETY DATA SHEET

Optibond XTR Primer

Section 1. Identification

GHS product identifier : Optibond XTR Primer

Other means of identification

: Not available.

Product type : Liquid.

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

Product use : Dental product: Bonding agent Area of application : Professional applications.

Manufacturer : Kerr Corporation

> 1717 West Collins Avenue Orange, CA 92867-5422

Telephone no.: 1-800-KERR-123

e-mail address of person responsible for this SDS

: edwin.varela@kavokerrgroup.com

Emergency telephone number (with hours of

operation)

: CHEMTREC® (24 hours) U.S.: 1-800-424-9300 International: +1-703-527-3887

Section 2. Hazards identification

OSHA/HCS status

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

Health effects are based on the uncured material.

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation and Narcotic effects) - Category 3

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 29.3%

GHS label elements

Hazard pictograms







Signal word : Danger

Date of issue/Date of revision : 02/26/2015 Date of previous issue : No previous validation Version :1 1/13

Section 2. Hazards identification

Hazard statements

: Highly flammable liquid and vapor.

Causes serious eye irritation.

Causes skin irritation.

May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness and dizziness.

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention

: Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosionproof electrical, ventilating, lighting and all material-handling equipment. Use only nonsparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response

Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. 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

: Store locked up. Store in a well-ventilated place. Keep cool.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and

international regulations.

Supplemental label elements

: Avoid contact with skin and clothing. Wash thoroughly after handling.

Hazards not otherwise

classified

: Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture
Other means of identification

Mixture

: Not available.

CAS number/other identifiers

CAS number : Not applicable.

Product code : Not available.

Ingredient name	Other names	%	CAS number
acetone 2-hydroxyethyl methacrylate ethanol	acetone	10-30	67-64-1
	2-hydroxyethyl methacrylate	10-30	868-77-9
	ethanol	5-10	64-17-5

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 and hence require reporting in this section.

Date of issue/Date of revision: 02/26/2015Date of previous issue: No previous validationVersion: 12/13

Section 4. First aid measures

Description of necessary first aid measures

Eye contact: No special measures are required. In case of contact with eyes, rinse immediately with

plenty of water. Get medical attention if symptoms occur.

Inhalation : No special measures required. If inhaled, remove to fresh air. Get medical attention if

symptoms occur.

Skin contact : No special measures required. In case of contact, immediately flush skin with plenty of

water. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. 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. Get medical attention if adverse health effects persist or

are severe.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and

dizziness. May cause respiratory irritation.

Skin contact: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

ingestion: Can cause central nervous system (CNS) depression. Irritating to mouth, throat and

stomach.

Over-exposure signs/symptoms

Eye contact: Adverse symptoms may include the following:

pain or irritation watering

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

redness

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Skin contact: Adverse symptoms may include the following:

irritation redness dryness cracking

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 : In case of major fire and large quantities: 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)

Date of issue/Date of revision : 02/26/2015 Date of previous issue : No previous validation Version : 1 3/13

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

: Use dry chemical, CO2, water spray (fog) or foam.

Unsuitable extinguishing media

: Do not use water jet.

Specific hazards arising from the chemical

: Highly 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.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon dioxide carbon monoxide phosphorus oxides

Special protective actions for fire-fighters

: In case of major fire and large quantities: 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

: Low release. For professional use only. Handling of product in very small amounts or in situations where release is highly unlikely

For emergency responders

: Low release. See also the information in "For non-emergency personnel".

Environmental precautions

: Low release. 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

: Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

Large spill

Small Quantity. For professional use only. Absorb with an inert material and place in an appropriate waste disposal container.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: No special measures are required for small quantities under normal and intended conditions of product use. For professional use only. Put on appropriate personal protective equipment (see Section 8). Handle with care and dispose in a safe manner.

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.

Date of issue/Date of revision: 02/26/2015Date of previous issue: No previous validationVersion: 14/13

Section 7. Handling and storage

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 (see Section 10) 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

Ingredient name	Exposure limits
acetone	ACGIH TLV (United States, 4/2014).
	TWA: 500 ppm 8 hours.
	TWA: 1188 mg/m ³ 8 hours.
	STEL: 750 ppm 15 minutes.
	STEL: 1782 mg/m³ 15 minutes.
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 750 ppm 8 hours.
	TWA: 1800 mg/m ³ 8 hours.
	STEL: 1000 ppm 15 minutes.
	STEL: 2400 mg/m³ 15 minutes.
	NIOSH REL (United States, 10/2013).
	TWA: 250 ppm 10 hours.
	TWA: 590 mg/m³ 10 hours.
	OSHA PEL (United States, 2/2013).
	TWA: 1000 ppm 8 hours.
	TWA: 2400 mg/m ³ 8 hours.
ethanol	ACGIH TLV (United States, 4/2014).
	STEL: 1000 ppm 15 minutes.
	OSHA PEL 1989 (United States, 3/1989).
	TWA: 1000 ppm 8 hours.
	TWA: 1900 mg/m ³ 8 hours.
	NIOSH REL (United States, 10/2013).
	TWA: 1000 ppm 10 hours.
	TWA: 1900 mg/m³ 10 hours.
	OSHA PEL (United States, 2/2013).
	TWA: 1000 ppm 8 hours.
	TWA: 1900 mg/m ³ 8 hours.

Appropriate engineering controls

Environmental exposure controls

: No special measures are required for small quantities under normal and intended conditions of product use.

: No special measures are required for small quantities under normal and intended conditions of product use.

Individual protection measures

Hygiene measures

: No special measures are required for small quantities under normal and intended conditions of product use.

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

Date of issue/Date of revision : 02/26/2015 Date of previous issue : No previous validation Version :1 5/13

Section 8. Exposure controls/personal 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: No special measures are required for small quantities under normal and intended

conditions of product use.

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 : No special measures are required for small quantities under normal and intended

conditions of product use.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Pale yellow.

Odor : Fruity ester-like

Odor threshold : Not available.

pH : 2.2

Melting point: Not available.Boiling point: Not available.

Flash point : Closed cup: 13°C (55.4°F)

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

(flammable) limits

Vapor pressure : Not available.
Vapor density : Not available.

Relative density : 1

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

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : 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.

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

Date of issue/Date of revision: 02/26/2015Date of previous issue: No previous validationVersion: 16/13

Optibond XTR Primer

Section 10. Stability and reactivity

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
acetone	LC50 Inhalation Vapor	Rat	76 mg/l	4 hours
	LC50 Inhalation Vapor	Rat	30000 ppm	4 hours
	LD50 Dermal	Rabbit	>15800 mg/kg	-
	LD50 Oral	Rat	5800 mg/kg	-
2-hydroxyethyl methacrylate	LD50 Oral	Rat	4230 mg/kg	-
ethanol	LC50 Inhalation Vapor	Rat	124700 mg/m ³	4 hours
	LD50 Oral	Rat	7 g/kg	-

Conclusion/Summary

: Based on the criteria of the protocol, this product is considered non-cytotoxic per ISO 10993-5.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
acetone	Eyes - Mild irritant	Rabbit	-	10 microliters	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	395 milligrams	-
ethanol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	0.066666667 minutes 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	100 microliters	-
	Eyes - Severe irritant	Rabbit	-	500 milligrams	-
	Skin - Mild irritant	Rabbit	-	400 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Date of issue/Date of revision	: 02/26/2015	Date of previous issue	: No previous validation	Version :1	7/13
--------------------------------	--------------	------------------------	--------------------------	------------	------

Optibond XTR Primer

Section 11. Toxicological information

Product/ingredient name	OSHA	IARC	NTP
ethanol	-	1	-

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	• •	Route of exposure	Target organs
acetone 2-hydroxyethyl methacrylate	• •	Not applicable. Not applicable.	Narcotic effects Respiratory tract irritation
ethanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	• •	Route of exposure	Target organs
ethanol	Category 2	Not determined	liver

Aspiration hazard

Not available.

Information on the likely routes of exposure

: Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

: Causes serious eye irritation.

Inhalation

Can cause central nervous system (CNS) depression. May cause drowsiness and

dizziness. May cause respiratory irritation.

Skin contact

: Causes skin irritation. Defatting to the skin. May cause an allergic skin reaction.

Ingestion

Can cause central nervous system (CNS) depression. 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

: Adverse symptoms may include the following:

respiratory tract irritation

coughing

nausea or vomiting

headache

drowsiness/fatigue dizziness/vertigo unconsciousness

Skin contact

Adverse symptoms may include the following:

irritation redness dryness cracking

Date of issue/Date of revision

: 02/26/2015

Date of previous issue

: No previous validation

Version :1

8/13

Section 11. Toxicological information

Ingestion : No specific data.

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

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : May cause damage to organs through prolonged or repeated exposure. Prolonged or

repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	20499.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
acetone	Acute EC50 20.565 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute LC50 6000000 µg/l Fresh water	Crustaceans - Gammarus pulex	48 hours
	Acute LC50 10000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 100 mg/l Fresh water	Fish - Pimephales promelas -	96 hours
		Juvenile (Fledgling, Hatchling,	
		Weanling)	
	Chronic NOEC 4.95 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Chronic NOEC 0.016 ml/L Fresh water	Crustaceans - Daphniidae	21 days
	Chronic NOEC 0.1 ml/L Fresh water	Daphnia - Daphnia magna -	21 days
		Neonate	
2-hydroxyethyl methacrylate	Acute LC50 227000 μg/l Fresh water	Fish - Pimephales promelas -	96 hours
		Juvenile (Fledgling, Hatchling,	
		Weanling)	
ethanol	Acute EC50 17.921 mg/l Marine water	Algae - Ulva pertusa	96 hours
	Acute EC50 2000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 25500 µg/l Marine water	Crustaceans - Artemia	48 hours
		franciscana - Larvae	
	Acute LC50 42000 μg/l Fresh water	Fish - Oncorhynchus mykiss	4 days
Date of issue/Date of revision	: 02/26/2015 Date of previous issue	: No previous validation Version : 1	9/1

Section 12. Ecological information

Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water Larvae

Algae - Ulva pertusa Fish - Gambusia holbrooki - 12 weeks Larvae

Persistence and degradability

Product/ingredient name	Test	Result		Dose		Inoculum
acetone 2-hydroxyethyl methacrylate	OECD 301B Ready Biodegradability - CO ₂ Evolution Test 301C Ready Biodegradability - Modified MITI Test (I)	90.9 % - 28 92 to 100 %	·	-		-
Product/ingredient name	Aquatic half-life	Photolysis			Biodeg	radability
acetone 2-hydroxyethyl methacrylate	-		-		Readily Readily	

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
acetone	-0.23	-	low
2-hydroxyethyl methacrylate	0.42	-	low
ethanol	-0.35	-	low

Mobility in soil

ethanol

Soil/water partition coefficient (Koc)

: Not available.

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.

Readily

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS#		Reference number
Acetone (I); 2-Propanone (I)	67-64-1	Listed	U002

Section 14. Transport information

Date of issue/Date of revision : 02/26/2015 Date of previous issue : No previous validation Version : 1 10/13

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1993	UN1993	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (acetone, ethanol) RQ (acetone)	FLAMMABLE LIQUID, N.O.S. (acetone, ethanol)	Flammable liquid, n.o.s. (acetone, ethanol)
Transport hazard class(es)	3	3	3
Packing group	II	II	II
Environmental hazards	No.	No.	No.
Additional information	Reportable quantity 17667.8 lbs / 8021.2 kg [2119 gal / 8021.2 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements. Limited quantity Yes. Packaging instruction Passenger aircraft Quantity limitation: 5 L Cargo aircraft Quantity limitation: 60 L Special provisions IB2, T7, TP1, TP8, TP28	Emergency schedules (EmS) F-E, _S-E_ Special provisions 274	Passenger and Cargo Aircraft Quantity limitation: 5 L Packaging instructions: 353 Cargo Aircraft Only Quantity limitation: 60 L Packaging instructions: 364 Limited Quantities - Passenger Aircraft Quantity limitation: 1 L Packaging instructions: Y341 Special provisions A3

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

Section 15. Regulatory information

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

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

Clean Air Act Section 602

: Not listed

Class I Substances

Date of issue/Date of revision: 02/26/2015Date of previous issue: No previous validationVersion: 1

Section 15. Regulatory information

Clean Air Act Section 602

Class II Substances

: Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals

: Listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

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
acetone 2-hydroxyethyl methacrylate ethanol	10-30	Yes.	No.	No.	Yes.	No.
	10-30	No.	No.	No.	Yes.	No.
	5-10	Yes.	No.	No.	Yes.	Yes.

SARA 313

Not applicable.

State regulations

Massachusetts : The following components are listed: ACETONE; ETHYL ALCOHOL

New York : The following components are listed: Acetone; 2-Propanone

The following components are listed: ACETONE; 2-PROPANONE; ETHYL ALCOHOL; **New Jersey**

ALCOHOL

Pennsylvania : The following components are listed: 2-PROPANONE; DENATURED ALCOHOL

California Prop. 65

None of the components are listed.

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 : 02/26/2015 Date of previous issue : No previous validation Version: 1 12/13

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 issue/Date of

revision

: 02/26/2015

Date of previous issue

: No previous validation

Version

: 1

Prepared by

: IHS

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

: HCS (U.S.A.)- Hazard Communication Standard

International transport regulations

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.