

SAFETY DATA SHEET

1. Identification

Product identifier D<CHCJ C@H-BGFI A 9BHG KARL FISCHER WATER STANDARD, 5.0 mg/g

Other means of identification

Product code2712805




Recommended use Laboratory reagent for water determination using the Karl Fischer method.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name Photovolt Instruments Inc.
Address 6323 Cambridge St., Minneapolis
MN
43065
Telephone US Phone 740-881-5501
Toll Free 800-858-9682
Fax 740-881-5989
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E-mail sales@photovolt.com
Emergency phone number Emergency Assistance 3E Company 800-451-8346 contract 7612

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	   exposure	Category 1 (central nervous system, kidney, liver, respiratory system)
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Signal word	Danger	
Hazard statement	Specific target organ toxicity, repeated exposure	Category 1 (nervous system, respiratory system)
OSHA hazard(s)	Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of causing cancer. May damage fertility or the unborn child. Causes damage to organs (central nervous system, kidney, liver, respiratory system). Causes damage to organs (nervous system, respiratory system) through prolonged or repeated exposure. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.	
Label elements	Not classified	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Use non-sparking tools and explosion-proof equipment.	

Response	Eliminate all ignition sources if safe to do so. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of contents/container to an approved incineration plant.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid
Environmental hazards	Hazardous to the aquatic environment, acute hazard Category 3 Hazardous to the aquatic environment, long-term hazard Category 3
Supplemental information	
Hazard statement	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. These alone may be insufficient to remove static electricity. Avoid release to the environment.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/information on ingredients

Mixtures

Hazardous components		
Chemical name	CAS number	%
XYLENES	1330-20-7	40 - < 50*
n-BUTYL ALCOHOL	71-36-3	30 - < 40*
ETHYLBENZENE	100-41-4	5 - < 10*
FORMAMIDE	75-12-7	5 - < 10*
Non-hazardous components		
Chemical name	CAS number	%
WATER	7732-18-5	0.5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Move to fresh air. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Narcosis. Decrease in motor functions. Behavioral changes. Edema. Liver enlargement. Jaundice. Proteinuria. Irritant effects. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Provide general supportive measures and treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO ₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only. Powder.
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Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. By heating and fire, harmful vapors/gases may be formed. Material will float and may ignite on surface of water.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.
Fire-fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Specific methods	In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up	<p>ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Should not be released into the environment. Stop the flow of material, if this is without risk.</p> <p>Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. This material and its container must be disposed of as hazardous waste. Following product recovery, flush area with water. Clean up in accordance with all applicable regulations.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.</p> <p>Never return spills in original containers for re-use. For waste disposal, see section 13 of the MSDS.</p>
Environmental precautions	Contact local authorities in case of spillage to drain/aquatic environment. Avoid discharge into drains, water courses or onto the ground. Avoid release to the environment. Use appropriate containment to avoid environmental contamination. Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code". DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact with skin. Avoid contact with eyes. Avoid contact during pregnancy/while nursing. Use personal protective equipment as required. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in cool place. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a well-ventilated place. Keep container tightly closed. Keep in an area equipped with sprinklers. Keep out of the reach of children. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
ETHYLBENZENE (CAS 100-41-4)	PEL	435 mg/m ³
n-BUTYL ALCOHOL (CAS 71-36-3)	PEL	100 ppm 300 mg/m ³
XYLENES (CAS 1330-20-7)	PEL	100 ppm 435 mg/m ³ 100 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
ETHYLBENZENE (CAS 100-41-4)	TWA	20 ppm
FORMAMIDE (CAS 75-12-7)	TWA	10 ppm
n-BUTYL ALCOHOL (CAS 71-36-3)	TWA	20 ppm
XYLENES (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
ETHYLBENZENE (CAS 100-41-4)	STEL	545 mg/m ³
	TWA	125 ppm 435 mg/m ³ 100 ppm
FORMAMIDE (CAS 75-12-7)	REL	15 mg/m ³ 10 ppm
n-BUTYL ALCOHOL (CAS 71-36-3)	Ceiling	150 mg/m ³ 50 ppm

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
ETHYLBENZENE (CAS 100-41-4)	0.7 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
XYLENES (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US. ACGIH Threshold Limit Values

FORMAMIDE (CAS 75-12-7) Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

FORMAMIDE (CAS 75-12-7) Can be absorbed through the skin.

N-BUTYL ALCOHOL; 1-BUTANOL (CAS 71-36-3) Can be absorbed through the skin.

US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).

FORMAMIDE (CAS 75-12-7) Skin designation applies.

n-BUTYL ALCOHOL (CAS 71-36-3) Skin designation applies.

US. NIOSH: Pocket Guide to Chemical Hazards

FORMAMIDE (CAS 75-12-7) Can be absorbed through the skin.

n-BUTYL ALCOHOL (CAS 71-36-3) Can be absorbed through the skin.

US. OSHA Table Z-1-A (29 CFR 1910.1000)

n-BUTYL ALCOHOL (CAS 71-36-3) Can be absorbed through the skin.

US. Rhode Island Hazardous Substances Right-to-Know Act (R.I. Gen. Laws Section 28-21-1 et. seq.)

n-BUTYL ALCOHOL (CAS 71-36-3) Can be absorbed through the skin.

XYLENES (CAS 1330-20-7) Can be absorbed through the skin.

US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A

n-BUTYL ALCOHOL (CAS 71-36-3) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear chemical goggles. Eye wash fountains are required.

Skin protection

Hand protection Wear protective gloves.

Other Wear appropriate chemical resistant clothing. Wear protective gloves.

Respiratory protection Do not breathe dust/fume/gas/mist/vapors/spray. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards Not available.

General hygiene considerations When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. Provide eyewash station and safety shower.

9. Physical and chemical properties

Appearance	Clear.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Strong odor of xylene & butanol.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	-103 °F (-75 °C) estimated
Initial boiling point and boiling range	239 - 284 °F (115 - 140 °C)
Flash point	78.80 °F (26.00 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.2 % estimated

Flammability limit - upper (%) 10.4 % estimated

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 9.18 hPa estimated

Vapor density Not available.

Relative density Not available.

Solubility(ies) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 765 °F (407 °C) estimated

Decomposition temperature Not available.

Viscosity Not available.

Other information

Density 0.85 g/cm³

Flammability class Flammable IC estimated

Flash point class Flammable IC

Percent volatile 100 % estimated

Specific gravity 0.85

VOC (Weight %) 99.5 % estimated

10. Stability and reactivity

Reactivity Not available.

Chemical stability Risk of ignition. Material is stable under normal conditions.

Possibility of hazardous reactions Hazardous polymerization does not occur.

Conditions to avoid Heat, flames and sparks. Avoid temperatures exceeding the flash point.

Incompatible materials Alkaline metals. Strong oxidizing agents. Strong acids. Halogens.

Hazardous decomposition products Irritants. Hydrogen cyanide (hydrocyanic acid). May include oxides of carbon.

11. Toxicological information

Information on likely routes of exposure

Ingestion Harmful if swallowed.

Inhalation Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Due to lack of data the classification is not possible.

Skin contact Not available.

Eye contact Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Narcosis. Edema. Liver enlargement. Jaundice. Proteinuria. Behavioral changes. Decrease in motor functions. Irritant effects. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
KARL FISCHER WATER STANDARD, 5.0 mg/g (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	7483 mg/kg 38.3575 g/kg, estimated
<i>Inhalation</i>		
LC50	Mouse	9577.1543 mg/l, 6 h, estimated

Product	Species	Test Results
		9577.1543 mg/l, 6 Hours, estimated
		7853 mg/l
	Rat	39195.9805 mg/kg, estimated
		15565.6328 mg/l, 4 h, estimated
		15565.6328 mg/l, 4 Hours, estimated
		7807 mg/l
LCL0	Rat	19610.2461 mg/l, 4 h, estimated
		19610.2461 mg/l, 4 Hours, estimated
		16080 mg/l
<i>Oral</i>		
LD50	Mouse	4629 mg/kg
		31.6583 g/kg, estimated
	Rat	4300 mg/kg, (xylene)
		790 mg/kg, (1-butanol)
		30.3173 g/kg, estimated
<i>Other</i>		
LD50	Guinea pig	12.5628 g/kg, estimated
	Mouse	947 mg/kg
	Rat	778.8945 mg/kg, estimated
		56.2814 g/kg, estimated
Components	Species	Test Results
ETHYLBENZENE (CAS 100-41-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	17800 mg/kg
<i>Oral</i>		
LD50	Rat	3500 mg/kg
		5.46 g/kg
<i>Other</i>		
LD50	Mouse	2272 mg/kg
FORMAMIDE (CAS 75-12-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	6 g/kg
<i>Inhalation</i>		
LC50	Rat	> 3900 mg/kg
<i>Oral</i>		
LD50	Mouse	400 mg/kg
		270 mg/kg
		3.15 g/kg
	Rat	6 g/kg
<i>Other</i>		
LD50	Guinea pig	1.25 g/kg
	Mouse	2450 mg/kg
	Rat	5.6 g/kg
n-BUTYL ALCOHOL (CAS 71-36-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	3400 mg/kg

Components	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	790 mg/kg
<i>Other</i>		
LD50	Mouse	377 mg/kg
	Rat	310 mg/kg
XYLENES (CAS 1330-20-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 43 g/kg
<i>Inhalation</i>		
LC50	Mouse	3907 mg/l, 6 h 3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 h 6350 mg/l, 4 Hours
LCL0	Rat	8000 mg/l, 4 h 8000 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	5627 mg/kg 1590 mg/kg
	Rat	3523 - 8600 mg/kg 6670 mg/kg 4300 mg/kg 3523 - 8600 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

ETHYLBENZENE (CAS 100-41-4)	2B Possibly carcinogenic to humans.
XYLENES (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Possible reproductive hazard. Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Potential embryo-fetal toxicity and teratogenicity. May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause irritation to the respiratory system. Narcotic effects. Causes damage to organs (central nervous system, kidney, liver, respiratory system).
Specific target organ toxicity - repeated exposure	Causes damage to organs (nervous system, respiratory system) through prolonged or repeated exposure.
Aspiration hazard	Due to lack of data the classification is not possible.
Chronic effects	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. Causes damage to organs through prolonged or repeated exposure.

12. Ecological information

Ecotoxicity	Harmful to aquatic life with long lasting effects. Components of this product are hazardous to aquatic life. Accumulation in aquatic organisms is expected.
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Product	Species		Test Results
KARL FISCHER WATER STANDARD, 5.0 mg/g (CAS Mixture)	Crustacea	EC50	Daphnia
		LC50	Daphnia
	Fish	LC50	Fish

Components	Species		Test Results	
ETHYLBENZENE (CAS 100-41-4)				
Aquatic				
Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours	
Fish	LC50	Atlantic silverside (Menidia menidia)	4.4 - 5.7 mg/l, 96 hours	
n-BUTYL ALCOHOL (CAS 71-36-3)				
Aquatic				
Crustacea	EC50	Water flea (Daphnia magna)	2117 - 2363 mg/l, 24 hours	
			1897 - 2072 mg/l, 48 hours	
	LC50	Brine shrimp (Artemia salina)	2950 mg/l, 24 hours	
		Harpacticoid copepod (Nitocra spinipes)	1900 - 2300 mg/l, 96 hours	
		Water flea (Daphnia magna)	1855 mg/l, 24 hours	
Fish	LC50	Bleak (Alburnus alburnus)	2250 - 2400 mg/l, 96 hours	
		Bluegill (Lepomis macrochirus)	100 - 500 mg/l, 96 hours	
		Carp (Leuciscus idus melanotus)	1200 mg/l, 48 hours	
		Fathead minnow (Pimephales promelas)	1940 mg/l, 1 hours	
			1940 mg/l, 24 hours	
			1940 mg/l, 48 hours	
			1940 mg/l, 72 hours	
			1630 - 1840 mg/l, 96 hours	
			Goldfish (Carassius auratus)	1900 mg/l, 24 hours
			Medaka, high-eyes (Oryzias latipes)	700 mg/l, 24 hours
		500 mg/l, 48 hours		
XYLENES (CAS 1330-20-7)				
Aquatic				
Crustacea	LC50	Calanoid copepod (Diaptomus forbesi)	99.5 mg/l, 96 hours	
		Daggerblade grass shrimp (Palaemonetes pugio)	14 mg/l, 24 hours	
			8.5 mg/l, 48 hours	
			7.4 mg/l, 96 hours	
		Rotifer (Brachionus calyciflorus)	253 mg/l, 2 days	
			253 mg/l, 24 hours	

Components		Species	Test Results
			253 mg/l, 48 hours
			203.9 - 301.5 mg/l, 24 hours
			156 - 348 mg/l, 24 hours
		Rotifer (<i>Brachionus plicatilis</i>)	461.8 - 530.1 mg/l, 24 hours
			387 - 605 mg/l, 24 hours
		Water flea (<i>Daphnia magna</i>)	150 mg/l, 24 hours
			100 - 1000 mg/l, 24 hours
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	36 mg/l, 24 hours
			30.5 mg/l, 1 hours
			25.1 - 26.1 mg/l, 24 hours
			25.1 - 26.1 mg/l, 48 hours
			25.1 - 26.1 mg/l, 72 hours
			22.9 - 26.2 mg/l, 96 hours
			19.9 mg/l, 2 hours
			19 mg/l, 48 hours
			19 mg/l, 96 hours
			18.88 - 30.51 mg/l, 24 hours
			18.88 - 30.51 mg/l, 48 hours
			16.2 - 17.5 mg/l, 24 hours
			15.99 - 26.18 mg/l, 96 hours
			15.9 mg/l, 4 hours
			15.9 - 17.2 mg/l, 48 hours
			15.7 - 17.2 mg/l, 72 hours
			14.9 - 20.3 mg/l, 24 hours
			14.9 - 20.3 mg/l, 96 hours
			14.2 - 18.7 mg/l, 24 hours
			13.965 - 19.496 mg/l, 24 hours
			13.8 - 17.7 mg/l, 24 hours
			13.7 - 17.8 mg/l, 24 hours
			13.6 mg/l, 8 hours
			13.1 - 17.2 mg/l, 96 hours
			13.1 - 16.5 mg/l, 96 hours
			13 - 17.3 mg/l, 24 hours
			13 - 17.3 mg/l, 96 hours
			12.7 - 20.7 mg/l, 96 hours
			12.651 - 15.492 mg/l, 24 hours
			12.3 - 16.9 mg/l, 96 hours
			12.122 - 15.034 mg/l, 96 hours
			12.1 - 15 mg/l, 96 hours
			11.3 - 16.1 mg/l, 24 hours
			11.3 - 16.1 mg/l, 96 hours
			11.068 - 17.709 mg/l, 24 hours
			11 mg/l, 16 hours
			10.977 - 16.114 mg/l, 96 hours
			10.485 - 14.903 mg/l, 24 hours
			10.464 - 13.762 mg/l, 24 hours
			10.464 - 16.114 mg/l, 96 hours

Components	Species	Test Results
		10.464 - 13.762 mg/l, 96 hours
		10.4 mg/l, 24 hours
		7.711 - 9.591 mg/l, 96 hours
	Carp (<i>Cyprinus carpio</i>)	1080 mg/l, 24 hours
		950 mg/l, 48 hours
		780 mg/l, 96 hours
	Fathead minnow (<i>Pimephales promelas</i>)	46 mg/l, 1 hours
		42 mg/l, 24 hours
		42 mg/l, 48 hours
		42 mg/l, 72 hours
		42 mg/l, 96 hours
		25.62 - 32.64 mg/l, 24 hours
		25.62 - 32.64 mg/l, 48 hours
		25.62 - 32.64 mg/l, 96 hours
		24.58 - 31.25 mg/l, 48 hours
		23.53 - 29.97 mg/l, 96 hours
		13.41 mg/l, 96 hours
	Goldfish (<i>Carassius auratus</i>)	75 mg/l, 24 hours
		32.64 - 42.69 mg/l, 24 hours
		32.64 - 42.69 mg/l, 48 hours
		32.64 - 42.69 mg/l, 96 hours
		26.42 - 37.26 mg/l, 24 hours
		19.16 - 31.01 mg/l, 48 hours
		12.04 - 24.95 mg/l, 72 hours
		6.85 - 21.31 mg/l, 96 hours
	Guppy (<i>Poecilia reticulata</i>)	30.26 - 40.75 mg/l, 24 hours
		30.26 - 40.75 mg/l, 48 hours
		30.26 - 40.75 mg/l, 96 hours
	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>)	11.9 - 25.1 mg/l, 24 hours
		11.9 - 25.1 mg/l, 24 hours
		11.9 - 25.1 mg/l, 96 hours
		11.9 - 25.1 mg/l, 96 hours
		9.54 - 19.2 mg/l, 24 hours
		9.54 - 19.2 mg/l, 96 hours
		9.5 - 19.2 mg/l, 24 hours
		9.5 - 19.2 mg/l, 96 hours
		6.702 - 10.032 mg/l, 96 hours
		6.7 - 10 mg/l, 96 hours
		6.7 - 10 mg/l, 96 hours
		6.673 - 10.323 mg/l, 24 hours
		2.661 - 4.093 mg/l, 24 hours
		2.661 - 4.093 mg/l, 96 hours
	Tigerfish, crescent perch (<i>Therapon jarbua</i>)	102 mg/l, 24 hours
		95 mg/l, 48 hours
		92 mg/l, 72 hours

Components	Species	Test Results
		89 mg/l, 96 hours
	Zebra danio (Danio rerio)	20 mg/l, 48 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability None known.

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)

n-BUTYL ALCOHOL	0.88
FORMAMIDE	-1.51
XYLENES	3.12 - 3.2
ETHYLBENZENE	3.15

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Not available.

Hazardous waste code D001: Waste Flammable material with a flash point <140 F

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (n-BUTYL ALCOHOL RQ = 12563 LBS, XYLENES RQ = 245 LBS)
Transport hazard class(es)	3
Subsidiary class(es)	Not available.
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Labels required	3
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (n-BUTYL ALCOHOL, XYLENES)
Transport hazard class(es)	3
Subsidiary class(es)	-
Packaging group	III
Environmental hazards	No
Labels required	3
ERG Code	Not available.
Special precautions for user	Not available.

IMDG

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (n-BUTYL ALCOHOL, XYLENES)
Transport hazard class(es)	3
Subsidiary class(es)	-
Packaging group	III

Environmental hazards

Marine pollutant No
Labels required 3
EmS Not available.
Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

General information DOT Regulated Marine Pollutant.

DOT**IATA; IMDG****15. Regulatory information**

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

ETHYLBENZENE (CAS 100-41-4)	LISTED
n-BUTYL ALCOHOL (CAS 71-36-3)	LISTED
XYLENES (CAS 1330-20-7)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - Yes
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

SARA 311/312 Hazardous chemical No

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

ETHYLBENZENE (CAS 100-41-4)
 XYLENES (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations

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

US. Massachusetts RTK - Substance List

ETHYLBENZENE (CAS 100-41-4)
FORMAMIDE (CAS 75-12-7)
n-BUTYL ALCOHOL (CAS 71-36-3)
XYLENES (CAS 1330-20-7)

US. New Jersey Worker and Community Right-to-Know Act

ETHYLBENZENE (CAS 100-41-4) 500 LBS
n-BUTYL ALCOHOL (CAS 71-36-3) 500 LBS
XYLENES (CAS 1330-20-7) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

ETHYLBENZENE (CAS 100-41-4)
FORMAMIDE (CAS 75-12-7)
n-BUTYL ALCOHOL (CAS 71-36-3)
XYLENES (CAS 1330-20-7)

US. Rhode Island RTK

ETHYLBENZENE (CAS 100-41-4)
FORMAMIDE (CAS 75-12-7)
n-BUTYL ALCOHOL (CAS 71-36-3)
XYLENES (CAS 1330-20-7)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

ETHYLBENZENE (CAS 100-41-4)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date April-30-2013

Version # 01

Further information Not available.

Disclaimer The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. The information in the sheet was written based on the best knowledge and experience currently available.

Revision Information

Product and Company Identification: Product Codes
Composition / Information on Ingredients: Ingredients
Transport Information: Proper Shipping Name/Packing Group