



BITUSOL ALPHA

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SECTION 1. IDENTIFICATION

Product identifier used on the label

: **BITUSOL ALPHA**

Product Code(s) : SC617.01

Recommended use of the chemical and restrictions on use

: Heavy Hydrocarbon Solubilizer / Emulsifier
Recommended restrictions: No restrictions on use known.

Chemical family : Mixture

Name, address, and telephone number of the supplier:

CONCEPTUAL TECHNOLOGIES INC

6812/14-78 Avenue NW
Edmonton, AB, Canada
T6B 2J5

Supplier's Telephone # : 780-466-6146 [9:00 am - 5:00 pm]

24 Hr. Emergency Tel # : 780-466-6146

Name, address, and telephone number of the manufacturer:

Refer to supplier

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Dark amber liquid. Aromatic odour.

Most important hazards: Combustible liquid. Causes severe skin burns and eye damage. May cause respiratory irritation. Aspiration hazard. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Toxic to aquatic life with long lasting effects.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable Liquid - Category 4

Skin Corrosion/Irritation - Category 1

Eye Damage/Irritation - Category 1

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

Aspiration Toxicity - Category 1

Label elements

Hazard pictogram(s)



Signal Word

DANGER!



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Hazard statement(s)

Combustible liquid.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May be fatal if swallowed and enters airways.

Precautionary statement(s)

Keep away from flames and hot surfaces. - No smoking.
Do not breathe mist.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/clothing and eye/face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
Do NOT induce vomiting. Rinse mouth.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
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.
Immediately call a POISON CENTER or doctor/physician.
In case of fire: Use water fog, dry chemical, CO₂ or 'alcohol' foam to extinguish.

Store locked up.
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.

Dispose of contents/container in accordance with local regulation.

Other hazards

Other hazards which do not result in classification:
Burning produces obnoxious and toxic fumes. Chronic skin contact with low concentrations may cause dermatitis.
Contact with metals may release small amounts of flammable hydrogen gas.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Heavy aromatic solvent naphtha	Heavy Aromatic Naphtha	64742-94-5	60.0 - 80.0
Dodecylbenzenesulfonic acid	Laurylbenzenesulfonic acid Alkylbenzene sulfonic acid DDBSA	27176-87-0	5.0 - 10.0
2-butoxyethanol	Ethylene glycol monobutyl ether butyl cellosolve Glycol Ether EB EGBE	111-76-2	5.0 - 10.0
Alcohols, C12-14-secondary, ethoxylated	Polyethylene glycol, dodecyl, tridecyl, tetradecyl ether	84133-50-6	5.0 - 10.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

SECTION 4. FIRST-AID MEASURES

Description of first aid measures



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- Ingestion* : Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Seek immediate medical attention/advice.
- Inhalation* : Immediately remove person to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Seek immediate medical attention/advice.
- Skin contact* : Wear appropriate protective equipment. Remove/Take off immediately all contaminated clothing. Immediately flush skin with gently flowing, running water for at least 20 minutes. Do not rub area of contact. Obtain medical attention immediately. Wash contaminated clothing before reuse. Contaminated leather may require disposal.
- Eye contact* : Wear appropriate protective equipment. Protect unharmed eye. If in contact with eyes, immediately flush eyes with running water for at least 20 minutes. If contact lens is present, DO NOT delay flushing or attempt to remove the lens until flushing is done. Obtain medical attention immediately.

Most important symptoms and effects, both acute and delayed

- : Causes severe skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye damage. Symptoms may include severe pain, blurred vision, redness and corrosive damage. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause drowsiness or dizziness. Aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal. Ingestion may cause severe burns to the mucous membranes of the digestive tract. Symptoms may include abdominal pain, vomiting, burns, perforations and bleeding.

Indication of any immediate medical attention and special treatment needed

- : Immediate medical attention is required. Causes chemical burns. Treat symptomatically. Aspiration hazard. This product is a CNS depressant.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical. Use water spray with caution.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture / Conditions of flammability

- : Combustible liquid. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Contact with most metals will generate flammable hydrogen gas.

Flammability classification (OSHA 29 CFR 1910.106)

- : Flammable Liquid - Category 4

Hazardous combustion products

- : Sulfur oxides ,Carbon oxides, Sodium oxides. .

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Use water to cool fire-exposed containers. Prevent runoff from fire control or dilution from entering sewers, drains, drinking water supply or any natural waterway. Dike for water control.



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SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

Methods and material for containment and cleaning up

- : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Dike for water control. Use only non-sparking tools. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.

Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
 US CERCLA Reportable quantity (RQ): See section 15.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

- : Wear protective gloves/clothing and eye/face protection. Use only in well-ventilated areas. Do not breathe fumes or mists. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Keep away from heat and flame. Keep away from incompatibles. Keep away from flames and hot surfaces. - No smoking. Use only non-sparking tools. Keep containers tightly closed when not in use.

- Conditions for safe storage** : Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.

- Incompatible materials** : Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Heavy aromatic solvent naphtha	N/Av	N/Av	500 ppm (2000 mg/m ³) (as petroleum distillates, naphtha)	N/Av
Dodecylbenzenesulfonic acid	N/Av	N/Av	N/Av	N/Av
2-butoxyethanol	20 ppm	N/Av	50 ppm (240 mg/m ³) (skin)	N/Av
Alcohols, C12-14-secondary, ethoxylated	N/Av	N/Av	N/Av	N/Av



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Exposure controls

Ventilation and engineering measures

: Use only in well-ventilated areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

: Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Seek advice from respiratory protection specialists.

Skin protection

: Wear protective gloves/clothing. Advice should be sought from glove suppliers. Wear appropriate protective clothing to prevent skin contact, such as coveralls or long sleeved shirt, long pants, and shoes and socks.

Eye / face protection

: Chemical splash goggles must be worn when handling this material. A full face shield may also be necessary.

Other protective equipment

: An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations

: Do not breathe fumes or mists. Do not ingest. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

: Dark amber liquid.

Odour

: Aromatic solvent odour.

Odour threshold

: Not applicable.

pH

: Not applicable.

Melting/Freezing point

: Not applicable.

Initial boiling point and boiling range

: 217°C

Flash point

: 66°C

Flashpoint (Method)

: Tag closed cup

Evaporation rate (BuAe = 1)

: N/Av

Flammability (solid, gas)

: Not applicable.

Lower flammable limit (% by vol.)

: Not applicable.

Upper flammable limit (% by vol.)

: Not applicable.

Oxidizing properties

: None known.

Explosive properties

: Not explosive

Vapour pressure

: <10 mmHg

Vapour density

: <4.8 @ 20-25°C

Relative density / Specific gravity

: 0.88

Solubility in water

: Very soluble

Other solubility(ies)

: Not available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: Not available.

Auto-ignition temperature

: Not applicable.

Decomposition temperature

: Not available.

Viscosity

: 1.13 cSt

Volatiles (% by weight)

: Not available.



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Volatile organic Compounds (VOC's)

: Not available.

Absolute pressure of container

: Not applicable.

Flame projection length

: Not applicable.

Other physical/chemical comments

: None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Material is stable under normal conditions.

Possibility of hazardous reactions

: Hazardous polymerization does not occur.

Conditions to avoid

: Avoid heat and open flame. Keep away from incompatibles. Keep container tightly closed when not in use.

Incompatible materials

: See Section 7 (Handling and Storage) for further details.

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause severe irritation to the nose, throat and respiratory tract. Symptoms may include coughing, choking and wheezing. Could result in pulmonary edema (fluid accumulation). Symptoms of pulmonary edema (chest pain, shortness of breath) may be delayed. May cause drowsiness or dizziness.

Sign and symptoms ingestion

: Aspiration hazard. Aspiration hazard if swallowed - can enter lungs and cause damage. Ingestion may cause severe burns to the mucous membranes of the digestive tract.

Sign and symptoms skin

: Causes skin burns. Symptoms may include redness, blistering, pain and swelling.

Sign and symptoms eyes

: Causes serious eye damage. Symptoms may include severe pain, tearing, redness, swelling and blurred vision. Permanent eye damage including blindness could result.

Potential Chronic Health Effects

: Chronic skin contact with low concentrations may cause dermatitis.

Mutagenicity

: Not expected to be mutagenic in humans.

Carcinogenicity

: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: Not expected to have other reproductive effects.

Sensitization to material

: Not expected to be a skin or respiratory sensitizer.



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Specific target organ effects : Target Organs: Eyes, skin, respiratory system and digestive system.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Classification:

Specific Target Organ Toxicity, Single Exposure -Category 3 (respiratory)

Specific Target Organ Toxicity, Single Exposure - Category 3 narcotic effects

May cause drowsiness or dizziness. May cause respiratory irritation.

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

Synergistic materials

: Not available.

Toxicological data

: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

The calculated ATE values for this mixture are:

ATE inhalation (vapours) = 24.17 mg/L

ATE dermal = 3344.01 mg/kg

ATE oral = 2073.87 mg/kg

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Heavy aromatic solvent naphtha	> 17.1 mg/L (mist)	> 6000 mg/kg	> 3160 mg/kg
Dodecylbenzenesulfonic acid	N/Av	650 mg/kg	2000 mg/kg
2-butoxyethanol	450 ppm (2.175 mg/L) (vapour)	530 mg/kg	400 - 500 mg/kg
Alcohols, C12-14-secondary, ethoxylated	> 1.6 mg/L (aerosol) (No mortality)	N/Av	> 2000 mg/kg (No mortality)

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : Toxic to aquatic life with long lasting effects. Do not release, unmonitored, into the environment.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Heavy aromatic solvent naphtha	64742-94-5	3.6 mg/L (Rainbow trout)	N/Av	None.
Dodecylbenzenesulfonic acid	27176-87-0	3.2 - 5.6 mg/L (Rainbow trout)	1.121 mg/L (30 days) (QSAR)	None.
2-butoxyethanol	111-76-2	1490 mg/L (Bluegill sunfish)	> 100 mg/L (Zebra fish)	None.
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	> 1 - 2.8 mg/L (Rainbow trout) (Read-across)	N/Av	None.



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<u>Ingredients</u>	CAS No	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Heavy aromatic solvent naphtha	64742-94-5	1.1 mg/L (Daphnia magna)	N/Av	None.
Dodecylbenzenesulfonic acid	27176-87-0	5.88 mg/L (Daphnia magna)	1.65 mg/L (Read-across)	None.
2-butoxyethanol	111-76-2	835 mg/L (Daphnia magna)	100 mg/L	None.
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	0.46 - 1.3 mg/L (Daphnia magna) (Read-across)	0.77 - 0.79 mg/L (Read-across)	1

<u>Ingredients</u>	CAS No	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Heavy aromatic solvent naphtha	64742-94-5	7.2 mg/L/72hr (Green algae)	0.22 mg/L/72hr	None.
Dodecylbenzenesulfonic acid	27176-87-0	65.4 mg/L/72hr (Green algae)	7.9 mg/L/72hr	None.
2-butoxyethanol	111-76-2	911 mg/L/72hr (Green algae)	286 mg/L/72hr	None.
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	0.5 - 0.7 mg/L/72hr (Green algae) (Read-across)	0.32 mg/L/72hr (Read-across)	1

Persistence and degradability

: No data is available on the product itself.

Bioaccumulation potential

: No data is available on the product itself.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Heavy aromatic solvent naphtha (CAS 64742-94-5)	> 3, < 6.5	N/Av
Dodecylbenzenesulfonic acid (CAS 27176-87-0)	1.96	36 - 119
2-butoxyethanol (CAS 111-76-2)	0.8	0.97
Alcohols, C12-14-secondary, ethoxylated (CAS 84133-50-6)	3 (estimated)	232 - 237 (Read-across)

Mobility in soil

: No data is available on the product itself.

Other Adverse Environmental effects

: No data is available on the product itself.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal

: Handle waste according to recommendations in Section 7.

Methods of Disposal

: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA

: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. For disposal of unused or waste material, check with local, state and federal environmental agencies.



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SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	NA1993	Combustible liquid, n.o.s. (Solvent naphtha (Petroleum), heavy aromatic)	Combustible.	III	
49CFR/DOT Additional information	Not regulated for road or rail shipment if packaged in non-bulk containers (450 Litres or less each).				
TDG	None.	Not regulated.	not regulated	none	
TDG Additional information	This material may be shipped as an exempted marine pollutant in accordance with TDG Section 1.45.1 and Special Provision 99.				
IMDG	UN3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (Petroleum), heavy aromatic)	9	III	
IMDG Additional information	May be shipped as Limited Quantity when transported in containers no larger than 5.0 Litres; in packages not exceeding 30 kg gross mass.				
ICAO/IATA	UN3082	Environmentally hazardous substance, liquid, n.o.s. (Solvent naphtha (Petroleum), heavy aromatic)	9	III	
ICAO/IATA Additional information	Refer to the appropriate Packing Instruction, prior to shipping this material. Review all State and Operator Variations, prior to shipping this material.				

Special precautions for user : None reported by the manufacturer.

Environmental hazards : This mixture meets the criteria for an environmentally hazardous material according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

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

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Heavy aromatic solvent naphtha	64742-94-5	Yes	None.	None.	No	N/Ap
Dodecylbenzenesulfonic acid	27176-87-0	Yes	1000 lb/ 454 kg	None.	No	N/Ap
2-butoxyethanol	111-76-2	Yes	None.	None.	No	N/Ap
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	Yes	N/Ap	N/Av	No	NS



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SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable; Skin corrosion; Eye Damage; Specific target organ toxicity, single exposure; Aspiration hazard.

Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Heavy aromatic solvent naphtha	64742-94-5	No	N/Ap	No	No	No	No	No	No
Dodecylbenzenesulfonic acid	27176-87-0	No	N/Ap	Yes	Yes	No	Yes	Yes	No
2-butoxyethanol	111-76-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	No	N/Ap	No	No	No	No	No	No

Canadian Information:

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product. All ingredients are present on the DSL.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Heavy aromatic solvent naphtha	64742-94-5	265-198-5	Present	Present	(9)-2578	KE-31656	Present	May be used as a single component chemical under an appropriate group standard.
Dodecylbenzenesulfonic acid	27176-87-0	248-289-4	Present	Present	(3)-1907; (3)-1884	KE-12947	Present	HSR003407
2-butoxyethanol	111-76-2	203-905-0	Present	Present	(7)-97; (2)-407	KE-04134	Present	HSR001154
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	None known.	Present	Present	(7)-79	KE-00456	Present	HSR003537

SECTION 16. OTHER INFORMATION

Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CA: California
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CFR: Code of Federal Regulations



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CSA: Canadian Standards Association
DOT: Department of Transportation
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Av: Not Available
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2018.
2. International Agency for Research on Cancer Monographs, searched 2018.
3. Canadian Centre for Occupational Health and Safety, CCHInfoWeb databases, 2018 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - March 2015 version.
6. California Proposition 65 List - November 23, 2018 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2018.

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Other special considerations for handling

: Provide adequate information, instruction and training for operators.



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<p><u>Prepared by:</u> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com</p>	

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