SAFETY DATA SHEET

Preparation Date: 9/10/2015 **Revision Date:** 9/12/2018 **Revision Number:** G2

1. IDENTIFICATION

Product identifier

Product code: HP832
Product Name: TETRAHYDROFURAN, STABILIZED WITH BHTEXCEEDS A.C.S. SPECIFICATIONS, HPLC GRADE

Other means of identification

Synonyms:
1,4-Epoxybutane
Butane, 1,4-epoxy-
Butane, alpha,delta-oxide
Cyclotetramethylene oxide
Diethylene oxide
Furanidine
Oxacyclopentane
Oxolane
Tetrahydrofuranne (French)
Tétrahydrofurane (French)
TFH (French)
Tetramethylene oxide
Tetrahidrofurano (Spanish)

CAS #: 109-99-9
RTECS # LU5950000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Solvent.
Uses advised against No information available

Supplier:
Spectrum Chemical Mfg. Corp
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: https://www.spectrumchemical.com
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Flammable liquids	Category 2

Label elements

Danger

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure
Highly flammable liquid and vapor

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Get medical advice/attention if you feel unwell
In case of fire: Use CO2, dry chemical, or foam to extinguish.
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 advice/attention.
If skin irritation occurs: Get medical advice/attention
IF ON SKIN (or hair): Remove/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. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Tetrahydrofuran	109-99-9	100
Butylated Hydroxytoluene	128-37-0	0.025

4. FIRST AID MEASURES

First aid measures

General Advice: National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms
Causes serious eye irritation
Causes skin irritation
Irritating to respiratory system
Inhalation of vapors may cause dizziness or suffocation
Inhalation of high concentratons may cause loss of conciousness (anesthesia)
Central nervous system effects
May cause nausea, headache, vomiting
May cause loss of appetite
It may affect the kidneys
May affect the liver
It may affect the heart
It may affect the thymus gland
It may affect the spleen

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders
First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide.

Specific hazards: Highly flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not let this chemical enter the environment. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice
Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials. Protect from light.

Incompatible Materials:
Oxidizing agents
Acids
Bases

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	**OSHA**	**NIOSH**	**ACGIH**	**AIHA WEEL**
Tetrahydrofuran	109-99-9	200 ppm TWA 590 mg/m³ TWA	200 ppm TWA 590 mg/m³ TWA 250 ppm STEL 735 mg/m³ STEL	100 ppm STEL 50 ppm TWA	None
Butylated Hydroxytoluene	128-37-0	None	10 mg/m³ TWA	2 mg/m³ TWA inhalable fraction and vapor	None

Canada

Components	CAS-No.	**Canada - Alberta**	**Canada - British Columbia**	**Canada - Ontario**	**Canada - Quebec**
Tetrahydrofuran	109-99-9	50 ppm TWA 147 mg/m³ TWA 100 ppm STEL 295 mg/m³ STEL	50 ppm TWA 100 ppm STEL	100 ppm STEL	None
Butylated Hydroxytoluene	128-37-0	10 mg/m³ TWA	2 mg/m³ TWA aerosol, inhalable, and vapour	None	None

Australia and Mexico

Components	CAS-No.	**Australia**	**Mexico**
Tetrahydrofuran	109-99-9	100 ppm TWA	200 ppm TWA

		295 mg/m³ TWA	590 mg/m³ TWA 250 ppm STEL 735 mg/m³ STEL
Butylated Hydroxytoluene	128-37-0	10 mg/m³ TWA	10 mg/m³ TWA 20 mg/m³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
No information available.

Color:
Colorless. Water-white.

Odor:
Ether-like. Fruity.

Taste
Pungent.

Formula:
C4-H8-O

Molecular/Formula weight (g/mole):
72.11

Flammability:
Highly flammable

Flashpoint (°C/°F):
-14.5 °C/5.9 °F
-20 °C/-4 °F

Flash Point Tested according to:
Closed cup
Open cup

Autoignition Temperature (°C/°F):
No information available

Lower Explosion Limit (%):
No information available

Upper Explosion Limit (%):
No information available

Melting point/range(°C/°F):
-108.44 °C/-163.19 °F

Decomposition temperature(°C/°F):
No information available

Boiling point/range(°C/°F):
65-66 °C/149-151 °F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
0.8892

pH:
No information available

Vapor pressure @ 20°C (kPa):
19.3

Evaporation rate:
No information available

Vapor density:
2.5

VOC content (g/L):
No information available

Odor threshold (ppm):
20-50

Partition coefficient (n-octanol/water):

No information available

Viscosity:
No information available

Miscibility:
Miscible with water
Miscible with ketones
Miscible with ethers
Miscible with esters
Miscible with alcohols
Miscible with hydrocarbons

Solubility:
Very soluble in Acetone
Very soluble in Benzene
Very soluble in Dimethyl Sulfoxide
Very soluble in chloroform
Very soluble in Ethanol
Solubility in Water: 30%

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents, acids, and bases
It is stabilized with BHT to prevent peroxide formation. However, It may still form explosive peroxides upon exposure to air. It may be an explosion hazard when the peroxides are concentrated due to evaporation.
Reacts vigorously with Bromine, Calcium hydride + heat
Reacts with lithium tetrahydroaluminate or borane to form explosive hydrogen gas
Violent reaction with metal halides (e.g., hafnium tetrachloride, titanium tetrachloide, zirconium tetrachloride)
Reacts with lithium aluminum hydride and other lithium-aluminum alloys causing fire or explosion

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Exposure to air. Exposure to light.

Incompatible Materials:
Oxidizing agents
Acids
Bases

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Ingestion. Skin. Inhalation.

Acute Toxicity

Component Information

Tetrahydrofuran	
CAS-No.	109-99-9

LD50/oral/rat = 1650 mg/kg Oral LD50 Rat

LD50/oral/mouse = 2000-2500 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = 180-243 mg/L Inhalation LC50 Rat 1 h
53.9-66 mg/L Inhalation LC50 Rat 4 h
21000 ppm Inhalation LC50 Rat 3 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 2300-2600 mg/kg Oral LD50 Guinea pig

Butylated Hydroxytoluene	
CAS-No.	128-37-0

LD50/oral/rat = 890 mg/kg
LD50/oral/mouse = 650-1040 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = > 2000 mg/kg
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 10700mg/kg oral LD50 Guinea pig
2100 mg/kg oral LD50 Rabbit

Product Information

LD50/oral/rat =
VALUE- Acute Tox Oral = 1650 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 2000 mg/kg

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = 21000 ppm (3-hr)
VALUE-Dust/Mist = 53.9 mg/l (4-hr.)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Irritating to skin. It can be absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation Irritating to respiratory system. Exposure to high concentrations may cause headache, nausea, vomiting. May cause abdominal pain. May cause loss of appetite. It may affect respiration (respiratory stimulation). Can cause dyspnea (shortness of breath and difficulty breathing). It may affect behavior/central nervous system (ataxia, general anesthetic, drowsiness). Inhalation of high concentrations of vapors may cause dizziness or suffocation. Inhalation of high

concentrations of vapor may cause anesthetic effects. It may affect behavior/central nervous system (convulsions/seizures). May cause muscle weakness. May affect peripheral nervous system (flaccid paralysis without anesthesia (usually neuromuscular blockage)). May affect behavior/central nervous system (loss of conciousness, coma). May affect the kidneys.

Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May affect respiration (respiratory depression). May affect behavior/central nervous system (ataxia). May cause loss of appetite. May cause muscle weakness.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated skin contact may cause dermatitis, and dryness and cracking of the skin. Prolonged or repeated inhalation can irritate the lungs. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may cause bronchitis with coughing, phlegm, and/or shortness of breath. Prolonged or repeated inhalation may cause loss of appetite. Prolonged or repeated inhalation may affect metabolism (weight loss). Prolonged or repeated inhalation may affect the spleen. Prolonged or repeated inhalation may affect the heart. Prolonged or repeated inhalation may affect the thymus gland. Prolonged or repeated inhalation may affect the blood (changes in white blood cell count). Prolonged or repeated ingestion may cause weight loss. Prolonged or repeated ingestion may cause loss of appetite. Prolonged or repeated ingestion may affect the blood (changes in white blood cell count). Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated ingestion may affect the blood (changes in clotting factors). Prolonged or repeated ingestion may affect the liver, and kidneys.

Sensitization: No information available.

Mutagenic Effects: Mutations in microorganisms
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: May cause cancer based on animal test data. Confirmed Animal Carcinogen with Unknown Relevance to Humans.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Tetrahydrofuran	109-99-9	Group 2B - Possibly carcinogenic to humans - Monograph 119 [in preparation]	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Present	Not listed	Not listed
Butylated Hydroxytoluene	128-37-0	Group 3 - Not classifiable - Supplement 7 [1987] Monograph 40 [1986]	A4 Not Classifiable as a Human Carcinogen	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: There is limited evidence limited evidence that Tetrahydrofuran is a developmental toxin or teratogen in animals
No information on developmental toxicity effects on humans was found
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure STOT - single exposure. Respiratory system. central nervous system.
STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure.
Target Organs: Skin. Respiratory system. Liver. Kidneys.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Tetrahydrofuran - 109-99-9
Freshwater Fish Species Data: 1970 - 2360 mg/L LC50 Pimephales promelas 96 h flow-through 1 2700 - 3600 mg/L LC50 Pimephales promelas 96 h static 1
Water Flea Data: 5930 mg/L EC50 Daphnia magna 24 h
Butylated Hydroxytoluene - 128-37-0
Freshwater Algae Data: 6 mg/L EC50 Pseudokirchneriella subcapitata 72 h 0.42 mg/L EC50 Desmodesmus subspicatus 72 h
Freshwater Fish Species Data: 5 mg/L LC50 Oryzias latipes 48 h 1

Persistence and degradability: No information available

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is low.

Mobility: It is expected to have very high mobility based on estimated Koc.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Tetrahydrofuran	109-99-9	None	None	None	U213 ignitable waste
Butylated Hydroxytoluene	128-37-0	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3
Subsidiary Class	No information available
Packing group:	II
Emergency Response Guide Number	127
Marine Pollutant	No data available
DOT RQ (lbs):	No information available
Special Provisions	IB2, T4, TP1
Symbol(s):	No information available
Description:	UN2056, Tetrahydrofuran, 3, II

TDG (Canada)

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Marine Pollutant	No Information available
Description:	UN2056, Tetrahydrofuran, 3, II

ADR

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3
Packing Group:	II
Subsidiary Risk:	No information available
Description:	UN2056, Tetrahydrofuran, 3, II

IMO / IMDG

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Marine Pollutant	No information available
EMS:	F-E
Description	UN2056, Tetrahydrofuran, 3, II

RID

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3
Subsidiary Risk:	3
Packing Group:	II
Description:	UN2056, Tetrahydrofuran, 3, II

ICAO

UN-No:	UN2056
Proper Shipping Name:	Tetrahydrofuran
Hazard Class:	3

Subsidiary Risk: No information available
Packing Group: II
Description: UN2056, Tetrahydrofuran, 3, II

IATA
UN-No: UN2056
Proper Shipping Name: Tetrahydrofuran
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
ERG Code: 3H
Special Provisions No information available
Description: UN2056, Tetrahydrofuran, 3, II

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Tetrahydrofuran	109-99-9	PresentACTIVE	Present KE-33454	Present	Present (5)-53	Present	Present	Present 203-726-8
Butylated Hydroxytoluene	128-37-0	PresentACTIVE	Present KE-03079	Present	Present (9)-1805,(5)-6372,(3)-540	Present	Present	Present 204-881-4

U.S. Regulations

Tetrahydrofuran
Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1823
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
1000 lb RQ
100 lb RQ
Louisana Reportable Quantity List for Pollutants: 1000lbfinal RQ
454kgfinal RQ
California Directors List of Hazardous Substances: Present
Butylated Hydroxytoluene
Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0814
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.3173
FDA - Direct Food Additives 21 CFR 172.115, 21 CFR 172.615, 21 CFR 173.340
FDA - 21 CFR - Total Food Additives 137.350, 166.110, 172.110, 172.115, 172.185, 172.615, 173.340, 175.105, 175.125, 175.300, 175.380, 175.390, 176.170, 176.210, 177.1010, 177.1210, 177.1350, 177.2260, 177.2600, 178.2010, 178.3570, 179.45, 181.24, 182.3173

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Tetrahydrofuran	109-99-9	Not Listed	Not Listed	Not Listed	Not Listed
Butylated Hydroxytoluene	128-37-0	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Tetrahydrofuran	109-99-9	1000 lb final RQ 454 kg final RQ	None	None	None	None
Butylated Hydroxytoluene	128-37-0	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Tetrahydrofuran	109-99-9	Not Applicable	03/11/199406/30/1998
Butylated Hydroxytoluene	128-37-0	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information: .

Component	WHMIS 2015 Hazard Classification
Tetrahydrofuran 109-99-9 (100)	Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Specific target organ toxicity - Single exposure - Category 3: H335 May cause respiratory irritation.
Butylated Hydroxytoluene 128-37-0 (0.025)	Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
Tetrahydrofuran	1 %
Butylated Hydroxytoluene	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Tetrahydrofuran	109-99-9	Present	Not Listed
Butylated Hydroxytoluene	128-37-0	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Tetrahydrofuran	109-99-9	Not listed
Butylated Hydroxytoluene	128-37-0	Not listed

Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Tetrahydrofuran	109-99-9	Not listed
Butylated Hydroxytoluene	128-37-0	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Tetrahydrofuran	109-99-9	Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (C >= 25 %); Carcinogenicity - Carc. 2: H351 Suspected of causing cancer.; Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 25 %); Supplemental Hazards: EUH019 May form explosive peroxides.603-025-00-0 Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (C >= 25 %); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 25 %)603-025-00-0
Butylated Hydroxytoluene	128-37-0	No information

EU - CLP (1272/2008)

R-phrase(s)
R11 - Highly flammable.
R19 - May form explosive peroxides.
R36/37 - Irritating to eyes and respiratory system.

S -phrase(s)
S 2 - Keep out of the reach of children.
S16 - Keep away from sources of ignition - No smoking.
S29 - Do not empty into drains.
S33 - Take precautionary measures against static discharges.
S36 - Wear suitable protective clothing.
S37 - Wear suitable gloves.
S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	CAS-No.	**Classification**	**Concentration Limits:**	**Safety Phrases**
Tetrahydrofuran	109-99-9	F; R11-19 Carc.Cat.3; R40 Xi; R36/37	25%<=C Xi; R36/37	S: (2)-13-16-29-33-36-37-46
Butylated Hydroxytoluene	128-37-0		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:
F - Highly flammable.
Xi - Irritant.

16. OTHER INFORMATION

Preparation Date: 9/10/2015
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Prepared by: Sonia Owen

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End of Safety Data Sheet