Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Vacseal® II High Vacuum Leak Sealant**

Synonyms • Vacseal II Vacuum Leak Sealant, clear

1.2 Relevant identified uses of the substance or mixture.

Relevant identified use(s) • Primarily used for sealing leaks in high and ultra high vacuum systems.

1.3 Details of the supplier of the safety data sheet

Manufacturer

- Space Environment Labs - Vacseal Inc.
  4949 N. Broadway
  Boulder Colorado 80304
  www.vacseal.net
- 1-303-443-4090

1.4 Emergency telephone number

- 1-(800)-424-9300 - Chemtrec
- 1-(703)-741-5970 - Worldwide

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

2.1 Classification of the substance or mixture

CLP

- Flammable Liquids 2 - H225
  Acute Toxicity Dermal 4 - H312
  Acute Toxicity Inhalation 4 - H332
  Specific Target Organ Toxicity Repeated Exposure 2 - H373

2.2 Label Elements

CLP

DANGER

Hazard statements • H225 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H312 - Harmful in contact with skin

H332 - Harmful if inhaled
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention
- P233 - Keep container tightly closed.
P235 - Keep cool.
P240 - Ground and/or bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe mist, vapours and/or spray.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response
- P370+P378 - In case of fire: Use appropriate media for extinction.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P322 - Specific measures, see supplemental first aid information.
P363 - Wash contaminated clothing before reuse.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P310 - Immediately call a POISON CENTER or doctor/physician.
P331 - Do NOT induce vomiting.
P314 - Get medical advice/attention if you feel unwell.

Storage/Disposal
- P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information
- This product consists of an ingredient of unknown toxicity at 15-25 percent via dermal and inhalation route.

2.3 Other Hazards

CLP
- According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012
- Flammable Liquids 3
Skin Irritation 2
Eye Irritation 2
Acute Toxicity Inhalation 4
Specific Target Organ Toxicity Single Exposure 3
Respiratory Tract Irritation 3
Germ Cell Mutagenicity 1B
Carcinogenicity 2
Reproductive Toxicity 1B
Specific Target Organ Toxicity Repeated Exposure 2

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements •
Flammable liquid and vapor
May be fatal if swallowed and enters airways
Causes skin irritation
Causes serious eye irritation
Harmful if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
May cause genetic defects.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

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 and/or hot surfaces. - No smoking.
Keep container tightly closed.
Keep cool.
Ground and/or bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist, vapours and/or spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response •
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
If on skin: Wash with plenty of soap and water.
Specific treatment, see supplemental first aid information.
Take off contaminated clothing and wash before reuse.
If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lens
Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF SWALLOWED: Immediately call a POISON CENTER/doctor .
Do NOT induce vomiting.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.

Storage/Disposal •
Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information • 15-25 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

3.1 Substances

• Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Xylene	**CAS:**1330-20-7 **EC Number:**215-535-7 **EU Index:**601-022-00-9	30% TO 50%	Ingestion/Oral-Rat LD50 • 4300 mg/kg Inhalation-Rat LC50 • 5000 ppm 4 Hour(s) Skin-Rabbit LD50 • >1700 mg/kg	**EU CLP:** Annex VI, Table 3.1: Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 **OSHA HCS 2012:** Flam. Liq. 3; Acute Tox. 4 (Inhl); Skin Irrit. 2; Eye Irrit. 2; Repr. 1B (Inhl); STOT SE 3: Narc.; STOT SE 3: Resp. Irrit.	NDA
Ethylbenzene	**CAS:**100-41-4 **EC Number:**202-849-4 **EU Index:**601-023-00-4	10% TO 30%	Ingestion/Oral-Rat LD50 • 3500 mg/kg Skin-Rabbit LD50 • 17800 µL/kg	**EU CLP:** Annex VI, Table 3.1: Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373 (Ear, Inhl); Asp. Tox. 1, H304 **OSHA HCS 2012:** Flam. Liq. 2; Acute Tox. 4 (Inhl); Eye Irrit. 2; Carc. 2 (Inhl); Repr. 2 (Inhl); STOT SE 3: Narc.; STOT SE 3: Resp. Irrit. (Inhl); STOT RE 2 (Ear, Inhl); Asp. Tox. 1	NDA
Silicone Polymers	*Proprietary*	15% TO 25%	NDA	**EU CLP:** Not Classified **OSHA HCS 2012:** Not Classified	NDA
Toluene	**CAS:**108-88-3 **EC Number:**203-625-9 **EU Index:**601-021-00-3	< 1%	Ingestion/Oral-Rat LD50 • 636 mg/kg Skin-Rabbit LD50 • 14100 µL/kg Inhalation-Rat LC50 • 49 g/m³ 4 Hour(s)	**EU CLP:** Annex VI, Table 3.1: Flam. Liq. 2, H225; Skin Irrit. 2, H315; Repr. 2, H361d; STOT SE 3: Narc., H336; STOT RE 2, H373; Asp. Tox. 1, H304 **OSHA HCS 2012:** Flam. Liq. 2; Acute Tox. 4 (Orl); Skin Irrit. 2; Eye Irrit. 2; Muta. 1B; Repr. 2; STOT SE 3: Narc.; STOT RE 1 (CNS, Inhl); Asp. Tox. 1	NDA

See Section 16 for full text of H-statements.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Skin
- Wash skin with soap and water. Remove and isolate contaminated clothing. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Water spray alcohol-resistant foam, Carbon dioxide Dry chemical.

Unsuitable Extinguishing Media
- High volume water jet, or direct stream of water.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- FLAMMABLE: Will be ignited by heat, sparks or flames. Containers may explode when heated.
  Many liquids are lighter than water.
  Vapors may form explosive mixtures with air.
  Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
  Vapors may travel to source of ignition and flash back.
  Vapor explosion hazard indoors, outdoors or in sewers.
  Runoff to sewer may create fire or explosion hazard.

Hazardous Combustion Products
- No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection.
  Wear positive pressure self-contained breathing apparatus (SCBA).
  Move containers from fire area if you can do it without risk.
  LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Use appropriate Personal Protective Equipment (PPE)

Emergency Procedures
- Follow all safe handling advice.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Contain and collect spill with absorbent materials wearing PPE. Place wet absorbent material in container, close and contact local authorities for Haz-Mat waste disposal.
  Use clean non-sparking tools to collect absorbed material.
  A vapor suppressing foam may be used to reduce vapors.
  All equipment used when handling the product must be grounded.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling
- Use only in well ventilated areas. Keep away from heat, sparks, and flame. Do not use

sparking tools. Take precautionary measures against static charges. All equipment used when handling the product must be grounded. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe mist, vapours and/or spray. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Store in a tightly closed container. Store in a cool, dry, well-ventilated place. Keep away from heat, sparks, and flame.

7.3 Specific end use

- This item is not being offered for clinical or diagnostic applications, agricultural uses or for human or animal consumption. Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	**ACGIH**	**NIOSH**	**OSHA**
Toluene (108-88-3)	Ceilings	Not established	Not established	300 ppm Ceiling
	TWAs	20 ppm TWA	100 ppm TWA; 375 mg/m3 TWA	200 ppm TWA
	STELs	Not established	150 ppm STEL; 560 mg/m3 STEL	Not established
Ethylbenzene (100-41-4)	TWAs	20 ppm TWA	100 ppm TWA; 435 mg/m3 TWA	100 ppm TWA; 435 mg/m3 TWA
	STELs	Not established	125 ppm STEL; 545 mg/m3 STEL	Not established
Xylene (1330-20-7)	TWAs	100 ppm TWA	Not established	100 ppm TWA; 435 mg/m3 TWA
	STELs	150 ppm STEL	Not established	Not established

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134. Use a NIOSH/MSHA approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves. Wear long sleeves and/or protective coveralls.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Additional Protection Measures

- An eyewash station and emergency shower must be available to the work station.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL = Short Term Exposure Limits are based on 15-minute exposures
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless to pale yellow liquid with solvent odor.
Color	Colorless to pale yellow.	Odor	Solvent odor.
Odor Threshold	Data lacking		
General Properties			
Boiling Point	> 100 °C(> 212 °F)	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	1.01 g/ml @ 25°C	Water Solubility	Data lacking
Viscosity	125 Centistoke (cSt, cS) or mm2/sec	Not explosive	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	73.4 °F(23 °C) PMCC (Pensky-Martins Closed Cup)	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Keep away from heat, sparks and flame.

10.5 Incompatible materials

- Oxidizing material can cause a reaction.

10.6 Hazardous decomposition products

- Thermal breakdown of this product during fire of very high heat conditions may evolve the following decomposition products: Carbon Oxides and traces of incompletely burned carbon compounds, Silicon dioxide, Metal oxides, formaldehyde.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Xylene (30% TO 50%)	1330-20-7	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 4300 mg/kg; *Liver*:**Other changes**; *Kidney, Ureter, and Bladder*:**Other changes**; Inhalation-Rat LC50 • 5000 ppm 4 Hour(s); Inhalation-Man LCLo • 10000 ppm 6 Hour(s); *Behavioral*:**General anesthetic**; *Lungs, Thorax, or Respiration*:**Cyanosis**; *Blood*:**Other changes**; Inhalation-Human TCLo • 200 ppm; *Sense Organs and Special Senses:Olfaction*:**Other changes**; *Sense Organs and Special Senses:Eye*:**Conjunctive irritation**; *Lungs, Thorax, or Respiration*:**Other changes**; Skin-Rabbit LD50 • >1700 mg/kg; **Irritation:** Eye-Rabbit • 5 mg 24 Hour(s) • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation; **Reproductive:** Inhalation-Rabbit TCLo • 1 g/m³ 24 Hour(s)(7-20D preg); *Reproductive Effects:Effects on Fertility*:**Abortion**; Inhalation-Rat TCLo • 50 mg/m³ 6 Hour(s)(1-21D preg); *Reproductive Effects:Effects on Fertility*:**Post-implantation mortality**; *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**; *Reproductive Effects:Specific Developmental Abnormalities*:**Craniofacial (including nose and tongue)**; Inhalation-Rat TDLo • 200 ppm 6 Hour(s)(4-20D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; *Reproductive Effects:Effects on Newborn*:**Behavioral**
Ethylbenzene (10% TO 30%)	100-41-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 3500 mg/kg; Inhalation-Guinea Pig LCLo • 2500 ppm 8 Hour(s); *Behavioral*:**Coma**; Inhalation-Human TCLo • 21700 mg/m³; *Behavioral*:**Antipsychotic**; Inhalation-Mouse TCLo • 600 ppm 6 Minute(s); *Lungs, Thorax, or Respiration*:**Respiratory depression**; Skin-Rabbit LD50 • 17800 µL/kg; **Irritation:** Eye-Rabbit • 500 mg • Severe irritation; Skin-Rabbit • 15 mg 24 Hour(s)-Open • Mild irritation; **Multi-dose Toxicity:** Inhalation-Rat TCLo • 550 ppm 8 Hour(s) 5 Day(s)-Intermittent; *Sense Organs and Special Senses:Ear*:**Change in acuity**; *Sense Organs and Special Senses:Ear*:**Changes in cochlear structure or function**; Inhalation-Rat TDLo • 200 ppm 13 Week(s)-Intermittent; *Sense Organs and Special Senses:Ear*:**Changes in cochlear structure or function**; **Mutagen:** Specific locus test • Intraperitoneal-Mouse • 754 µmol/L; Micronucleus test • Unreported Route-Hamster • Embryo (Somatic cell) • 25 mg/L; Sister chromatid exchange • Unreported Route-Human • Lymphocyte (Somatic cell) • 10 mmol/L; Mutation in Mammalian Somatic Cells • Unreported Route-Mouse • Lymphocyte (Somatic cell) • 80 mg/L; **Reproductive:** Inhalation-Rabbit TCLo • 1 g/m³ 24 Hour(s)(7-20D preg); *Reproductive Effects:Effects on Fertility*:**Abortion**; Inhalation-Rat TCLo • 96 ppm 7 Hour(s)(1-19D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; Inhalation-Rat TCLo • 1000 ppm (6-20D preg); *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**; Inhalation-Rat TCLo • 600 mg/m³ 24 Hour(s)(7-15D preg); *Reproductive Effects:Effects on Fertility*:**Post-implantation mortality**; *Reproductive Effects:Effects on Embryo or Fetus*:**Fetal death**; *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; **Tumorigen / Carcinogen:** Inhalation-Mouse TCLo • 750 ppm 6 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Bronchiogenic carcinoma**; *Liver*:**Tumors**; Inhalation-Rat TCLo • 750 ppm 6 Hour(s) 2 Year(s)-Intermittent; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Kidney, Ureter, and Bladder*:**Tumors**; Inhalation-Rat TCLo • 23400 mg/kg 104 Week(s)-Intermittent; *Tumorigenic*:**Equivocal tumorigenic agent by RTECS criteria**; *Kidney, Ureter, and Bladder*:**Kidney tumors**; *Reproductive Effects:Tumorigenic Effects*:**Testicular tumors**
Toluene (< 1%)	108-88-3	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 636 mg/kg; Inhalation-Rat LC50 • 49 g/m³ 4 Hour(s); Inhalation-Human TCLo • 200 ppm; *Brain and Coverings*:**Recordings from specific areas of CNS**; *Behavioral*:**Antipsychotic**; *Blood*:**Changes in bone marrow not included above**; Inhalation-Human TCLo • 1500 mg/m³ 8 Hour(s); *Sense Organs and Special Senses:Eye*:**Lacrimation**; *Sense Organs and Special Senses:Eye*:**Conjunctive irritation**; *Behavioral*:**Ataxia**; Inhalation-Man TCLo • 50 ppm; *Kidney, Ureter, and Bladder*:**Other changes in urine composition**; Skin-Rabbit LD50 • 14100 µL/kg; **Irritation:** Eye-Rabbit • 2 mg 24 Hour(s) • Severe irritation; Skin-Rabbit • 20 mg 24 Hour(s) • Moderate irritation; **Multi-dose Toxicity:** Inhalation-Mouse TCLo • 250 ppm 4 Day(s)-Continuous; *Behavioral*:**Convulsions or effect on seizure threshold**; *Behavioral*:**Abuse**; Inhalation-Mouse TCLo • 50 ppm 12 Week(s)-Intermittent; *Brain and Coverings*:**Other degenerative changes**; Inhalation-Rat TCLo • 10 ppm 6 Hour(s) 13 Week(s)-Intermittent; *Brain and Coverings*:**Other degenerative changes**; *Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels*:**Multiple enzyme effects**; **Mutagen:** Micronucleus test • Ingestion/Oral-Mouse • 200 mg/kg; Sister chromatid exchange • Inhalation-Human • 252 µg/L 19 Year(s); Cytogenetic analysis • Inhalation-Rat • 5400 µg/m³ 16 Week(s)-Intermittent; **Reproductive:** Inhalation-Mouse TCLo • 500 mg/m³ 24 Hour(s)(6-13D preg); *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**; Inhalation-Mouse TCLo • 200 ppm 7 Hour(s)(7-16D preg); *Reproductive Effects:Specific Developmental Abnormalities*:**Urogenital system**

GHS Properties	Classification
	EU/CLP • Acute Toxicity - Dermal 4 - ATEmix (Derm) = 1650 mg/L ; Acute Toxicity -

Acute toxicity	Inhalation 4 - ATEmix (Inhl, Vapors) = 11.9 mg/L 4h **OSHA HCS 2012** • Acute Toxicity - Inhalation 4 - ATEmix (Inhl, Vapors) = 11.9 mg/L 4h
Skin corrosion/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Skin Irritation 2
Serious eye damage/Irritation	**EU/CLP** • Data lacking **OSHA HCS 2012** • Eye Irritation 2
Skin sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Respiratory sensitization	**EU/CLP** • Data lacking **OSHA HCS 2012** • Data lacking
Aspiration Hazard	**EU/CLP** • Aspiration 1 **OSHA HCS 2012** • Aspiration 1
Carcinogenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Carcinogenicity 2
Germ Cell Mutagenicity	**EU/CLP** • Data lacking **OSHA HCS 2012** • Germ Cell Mutagenicity 1B
Toxicity for Reproduction	**EU/CLP** • Data lacking **OSHA HCS 2012** • Toxic to Reproduction 1B
STOT-SE	**EU/CLP** • Data lacking **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP** • Specific Target Organ Toxicity Repeated Exposure 2 **OSHA HCS 2012** • Specific Target Organ Toxicity Repeated Exposure 2

Potential Health Effects

Inhalation

Acute (Immediate)
- Harmful if inhaled. May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)
- Exposure to relatively low concentrations of ethylbenzene for several days to weeks resulted in potentially irreversible damage to the inner ear and hearing of animals.

Skin

Acute (Immediate)
- Harmful in contact with skin. Causes skin irritation.

Chronic (Delayed)
- No data available

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available

Ingestion

Acute (Immediate)
- Material may be aspirated into lungs during ingestion and/or subsequent vomiting. Aspiration of this material will cause severe lung injury, chemical pneumonitis, pulmonary edema or death.

Chronic (Delayed)
- No data available

Mutagenic Effects
- Repeated and prolonged exposure may cause mutagenic effects.

Carcinogenic Effects
- Repeated and prolonged exposure may cause cancer.

Carcinogenic Effects		
	CAS	**IARC**
Ethylbenzene	100-41-4	Group 2B-Possible Carcinogen

Reproductive Effects
- Repeated and prolonged exposure may cause reproductive effects.

Key to abbreviations
LC = Lethal Concentration
LD = Lethal Dose
TC = Toxic Concentration
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN 1993	Flammable liquids	3	III	NDA
IMO/IMDG	UN1866	Flammable liquids	3	III	NDA
IATA/ICAO	UN1866	Flammable liquids	3	III	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic, Fire

Inventory						
Component	**CAS**	**Canada DSL**	**Canada NDSL**	**EU EINECS**	**EU ELNICS**	**TSCA**
Ethylbenzene	100-41-4	Yes	No	Yes	No	Yes
Toluene	108-88-3	Yes	No	Yes	No	Yes
Xylene	1330-20-7	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS 1988 - Classifications of Substances

• Ethylbenzene	100-41-4	B2, D2A, D2B
• Toluene	108-88-3	B2, D2A, D2B
• Xylene	1330-20-7	B2, D2A, D2B

Canada - WHMIS 1988 - Ingredient Disclosure List

• Ethylbenzene	100-41-4	0.1 %
• Toluene	108-88-3	1 %
• Xylene	1330-20-7	Not Listed

Environment

Canada - CEPA - Priority Substances List

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Priority Substance List 1 (substance not considered toxic)
• Xylene	1330-20-7	Priority Substance List 1 (substance not considered toxic)

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Ethylbenzene	100-41-4	(listed under Ethyl benzene)
• Toluene	108-88-3	
• Xylene	1330-20-7	(isomers and mixtures)

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Ethylbenzene	100-41-4	1000 lb final RQ; 454 kg final RQ

• Toluene	108-88-3	1000 lb final RQ; 454 kg final RQ
• Xylene	1330-20-7	100 lb final RQ; 45.4 kg final RQ

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Ethylbenzene	100-41-4	0.1 % de minimis concentration
• Toluene	108-88-3	1.0 % de minimis concentration
• Xylene	1330-20-7	1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

• Ethylbenzene	100-41-4	carcinogen, 6/11/2004
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	developmental toxicity, 1/1/1991
• Xylene	1330-20-7	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	7000 µg/day MADL (level represents absorbed dose)
• Xylene	1330-20-7	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Ethylbenzene	100-41-4	54 µg/day NSRL (inhalation); 41 µg/day NSRL (oral)
• Toluene	108-88-3	Not Listed

• Xylene	1330-20-7	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Ethylbenzene	100-41-4	Not Listed
• Toluene	108-88-3	Not Listed
• Xylene	1330-20-7	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H226 - Flammable liquid and vapor
  H315 - Causes skin irritation
  H336 - May cause drowsiness or dizziness
  H361d - Suspected of damaging the unborn child.

Revision Date

- 27/March/2020

Preparation Date

- 15/January/2014

Disclaimer/Statement of Liability

- The information stated in this Safety Data Sheet is designed only as guidance for safe handling, use, storage, transportation, and disposal. This product should be used only in the context of its intended manner of use and include proper assessment of the appropriateness by the end user. The information relates only to the specific material designated and may not be valid when used in combination with any other materials or if this product has been repackaged, renamed or relabeled. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication or revisions.