SAFETY DATA SHEET

Section 1: Product Identification

Product Name: Temp-Chex Red Spirit:
Refrigerator, Freezer and Incubator/Room Temperature (contains: Red Mineral Liquid)
Ultra-Low Freezer (contains: Toluene & Methanol)
Synonyms: Temperature monitor
CAS Number: N/A
Product Use: Monitor room temperatures, standard and ultra-low freezers, refrigerators and incubators.
Restrictions: Refer to Instructions for Use (IFU) for additional precautions and limitations.

Manufacturer: Streck
Address: 7002 S. 109 St,
La Vista, NE, 68128

Emergency: Business hours: 1-402-333-1982
24hr (Chem.-Tel): 1-800-255-3924

Section 2: Hazards Identification

Classification*: Physical Hazards:
Flammable Liquid and vapor, category 2

Health Hazards:
Skin corrosion/ irritant, category 2
Serious eye damage/ irritant, category 2A
Acute toxicity: Oral, category 3
Acute toxicity: Inhalation, category 3
Acute toxicity: Dermal, category 3
Single Target organ toxicity: Respiratory tract: Single exposure, category 3
Single Target organ toxicity: Narcotic effects: Single exposure, category 3
Single Target organ toxicity: Repeated, category 2
Aspiration Hazard, category 1

Additional classifications by unit type:

Temp-Chex Red Spirit (except Ultra-Low Freezer)	**Temp-Chex Red Spirit Ultra-Low Freezer**
Carcinogen, category 1B	Reproductive Toxicity, category 2
Mutagenic, category 1B	Aquatic Hazard: Acute, category 2

***** No hazards present under normal usage conditions. Methanol and Toluene (in Ultra-Low) or Red mineral liquid, which may be released from a broken thermometer, are the hazardous components of the Temp-Chex product.

Label Elements: Product exempted as an article per 29CFR1910.1200(b)(6)(v).
Symbol: Flame, Health Hazard, Skull & Crossbones
Signal Word: Danger

Hazard Statements:

Highly flammable liquid and vapor.
Toxic if swallowed, in contact with skin or inhaled.
May be fatal if swallowed and enters airways.
Causes skin and eye irritation.
May cause respiratory irritation, drowsiness and/ or dizziness.
May cause damage to organs through prolonged or repeated exposure.

Hazards specific to unit type:

Temp-Chex Red Spirit (except Ultra-Low Freezer)	**Temp-Chex Red Spirit Ultra-Low Freezer**
May cause genetic defects. May cause cancer.	Suspected of damaging fertility or the unborn child

Precautionary Statements:

*Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep cool and store in a well-ventilated place. In case of fire: Use for extinction: CO2, extinguishing powder or foam.
Wear protective gloves/ protective clothing/ eye protection/ face protection
Keep container tightly closed. Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid release to the environment.
IF SWALLOWED Immediately call a POISON CENTER or doctor/physician. Rinse Mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical advice/ attention.
IF INHALED: Call a POISON CENTER or doctor.

*Special instructions refer to Instructions for Use (IFU) and labeling.

Other hazards: Toluene may aggravate pre-existing conditions; skin disorders or impaired liver or kidney function may be more susceptible to the effects of Toluene. Alcoholic beverage consumption can enhance the toxic effects of Toluene.

Section 3: Composition

CAS #	Hazardous Component	% by weight
8052-41-3	Red Mineral Liquid/ Stoddard Solvent (except Ultra Low Freezer)	99.85 (thermometer)
108-88-3	Toluene (<2mL) (Ultra Low Freezer)	99.85 (thermometer)
67-56-1	Methanol (Ultra Low Freezer)	45% (vial)

Section 4: First Aid Measures

List specific first aid measures for:

1. **Skin Contact** - Remove any contaminated clothing. Rinse the contacted area with water, then wash with soap and water. Wash clothing before reuse. Seek medical attention immediately.
2. **Eye contact -** In case of contact, flush eyes with copious amounts of water for at least 15-20 minutes. Raise eyelids to be sure material is rinsed out. Seek medical attention immediately.
3. **Ingestion -** Aspiration Hazard. DO NOT INDUCE VOMITING. Keep victim at rest. Call for medical attention immediately. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Give large amounts of water.
4. **Inhalation -** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Most important symptoms and effects, both acute and delayed: Irritation to skin, eyes, respiratory system and mucous membranes. Overexposure may cause cramps, headache, fatigue, confusion, coughing, nausea, drowsiness, dizziness and unconsciousness. Gastric or intestinal disorders when ingested. **Ingestion:** Abdominal spasms and other symptoms that parallel over-exposure from inhalation.

Methanol (Ultra-Low Freezer): Blindness, irritation of the digestive tract, kidneys and/ or systemic toxicity with acidosis. Nervous system depression characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Target organs: Eyes, respiratory system, kidneys, liver, bone marrow, central nervous system, skin.

Indication of immediate medical attention and special treatment needed: If swallowed: gastric irrigation with activated carbon, aspiration risk. Observe for pneumonia and pulmonary edema. Treat skin and mucous membrane with antihistamines and corticoid preparations. **Aspiration:** May cause severe pulmonary injury which may be fatal.

Section 5: Fire Fighting Measures

Suitable Extinguishing media	Use foam or dry chemical to extinguish fire. Do NOT use water.
Special hazards arising from the chemical	Flammable liquid and vapor. Sensitive to static discharge. Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for fire-fighters.	Wear self-contained breathing apparatus for firefighting if necessary.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

PPE needed for clean up: Use personal protective equipment. Ensure adequate ventilation.

Methods and materials for containment and cleaning up

Spill clean-up procedure: Ventilate area. Remove all sources of ignition and protect from heat. Contain and recover liquid when possible. Use non-sparking equipment. Collect liquid in an appropriate container or absorb with an inert material (i.e. vermiculite, dry sand, earth) and place in a suitable chemical waste container. Pick up mechanically. Do not allow to enter sewer/ surface or ground water.

Follow-up guidelines: Dispose of contaminated items or clean thoroughly.

Section 7: Handling and Storage

Handling	Protect from breakage. When thermometer is broken, protect from hazardous contents and broken glass. Follow procedures in Section 6. Use proper bonding or ground procedures.		
Storage	Store at conditions as indicated on the product label.		
Temp	Store at temperature as indicated on the product label.	**Avoid**	Protect from all sources of heat, ignition, sparks, flames and sunlight. If broken avoid contact with: strong acids, halogen/ halogen compounds, oxidizing agents, perchlorates, and organic nitro compounds.
Warnings	As supplied, Temp-Chex thermometers pose no hazard.		

Section 8: Exposure Control and Personal Protection

Hazardous Component	**OSHA PEL**
Toluene	200 ppm (TWA ceiling), 500 ppm (Max conc.)
Red Mineral Spirits	500 ppm
Methanol	200 ppm (max conc.)

Engineering control recommendations: As supplied, use general room ventilation. If thermometer breakage occurs, local or general exhaust is recommended to keep exposure below limits.

Individual protection measures:

PPE: Standard Laboratory: Chemical safety goggles and/or face shield where splashing is possible. Wear impervious protective clothing, as appropriate, to prevent skin contact. A laboratory coat or apron is recommended.

Additional suggestions: If exposure limits are exceeded, utilize a NIOSH approved organic vapor respirator.

Section 9: Physical and Chemical Properties

Red Mineral Liquid/ Stoddard Solvent			
Physical State	Liquid	**Color**	black
Odor	Petroleum-like	**Odor Threshold**	No data
pH	N/A	**Melting/ Freezing point**	-17°C
Boiling point	159 °C	**Boiling range**	159-198 °C
Flash Point	44 °C	**Evaporation rate**	0, 17 (Butyl Acetate = 1.0)
Flammability	No applicable	**Upper/lower flammability**	No applicable
Explosive limits	2,1 Vol% to 13,3 Vol%	**Vapor pressure**	2,93 hPa (2.2 mmHg)
Vapor density	No data	**Relative density**	No data
Solubility(ies)	No data	**Partition coefficient: n-octano/ water**	>3,0 log POW
Auto-ignition temperature	260 °C	**Decomposition Temperature**	No data
Viscosity	No data		

Toluene			
Physical State	Liquid	**Color**	colorless
Odor	Sweet, pungent	**Odor Threshold**	No data
pH	No data	**Melting/ Freezing point**	5.56 °C
Boiling point	110.44 °C	**Boiling range**	110.44 °C
Flash Point	4.8 °C	**Evaporation rate**	2 (n-Butyl Acetate=1)
Flammability	No data	**Upper/lower flammability**	7.1%/1.2%
Explosive limits	No data	**Vapor pressure**	22 @ 68°F
Vapor density	3.14	**Relative density**	No data
Solubility(ies)	Water- very slightly	**Partition coefficient: n-octano/ water**	No data
Auto-ignition temperature	535.83 °C	**Decomposition Temperature**	No data
Viscosity	No data		

Methanol			
Physical State	Liquid	**Color**	Clear
Odor	Alcohol-like	**Odor Threshold**	No data
pH	No data	**Melting/ Freezing point**	-98°C
Boiling point	64°C	**Boiling range**	64°C
Flash Point	12°C	**Evaporation rate**	5.2 (ether=1)
Flammability	Class 1B Flammable liquid	**Upper/lower flammability**	36%/7.3%
Explosive limits	No data	**Vapor pressure**	16.9 kPa (25°C)
Vapor density	No data	**Relative density**	0.8 (25°C)
Solubility(ies)	Miscible with water	**Partition coefficient: n-octano/ water**	-0.77
Auto-ignition temperature	240°C	**Decomposition Temperature**	No data
Viscosity	No data		

Section 10: Stability and Reactivity

1. **Reactivity:** No data.
2. **Chemical Stability:** Stable under recommended storage conditions.
3. **Possibility of hazardous reactions:** No data.
4. **Conditions to avoid:** Heat, flames, ignition sources & incompatibles
5. **Incompatible materials (all):** Strong oxidizers
   Except Ultra Low: Halogens, molten sulfur
   Ultra Low: Strong Acids such as Nitric and sulfuric acids, chlorine, nitrogen tetroxide, zinc, magnesium, aluminum
6. **Hazardous decomposition products(all):** Carbon monoxide, carbon dioxide
   Ultra Low: formaldehyde, toxic gas.

Section 11: Toxicological Properties

Toxicological effects:	**Toluene:** Has shown some evidence of reproductive effects in laboratory animals. Vapors have narcotic effect.	
Route(s) of exposure:	Skin, eyes, inhalation, swallowing	
Symptoms:	Irritation of skin, eyes, respiratory and/ or digestive systems. **Toluene/ Red Mineral Liquid:** Drowsiness, dizziness.	
Delayed effects:	Organ damage	
Immediate effects:	Irritation of skin, eyes, respiratory and/ or digestive systems. **Toluene:** Drowsiness, dizziness.	
Chronic effects:	Short exposure:	**Toluene:** anemia, decreased blood cell count, bone marrow hypoplasia, and liver and kidney damage. **Red Mineral Liquid**: small amounts of liquid aspirated into the lungs may cause chemical pneumonitis or pulmonary edema.
	Long exposure:	**Toluene:** Repeated or prolonged skin contact has a defatting action, causing drying, redness, dermatitis. Repeated or prolonged exposure may cause central nervous system damage. **Red Mineral Liquid**: Skin dryness or cracking. Vapor: irritating to eyes and respiratory tract, may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects.
Exposure limits	**Toluene:** 200ppm (TWA ceiling), 500ppm (max conc.), **Methanol:** 200ppm (max conc.), **Red mineral liquid:** 66ppm total hydrocarbon.	
Carcinogenicity	**Toluene:** IARC Category 3, **Red mineral liquid:** IARC group 2B	
Measures of Toxicity	**Toluene:** Oral: rat: LD50: 5,000 mg/kg. Dermal: rabbit LD50:12,124 mg/kg; inhalation: mouse(4h): LC50: 5,320 mg/kg. Irritation data; skin rabbit, 500mg, moderate; eye rabbit, 2 mg/24H, severe. **Methanol:** Oral: rat: LD50: 5,628 mg/kg, rabbit: LD50: 14,400mg/kg. Dermal: rabbit: LD50 18,800 mg/kg. Inhalation: rat (6h): LD50 87.5 mg/l. **Red mineral liquid:** Oral rat LD50: 3,500mg/kg, skin rabbit LD50: 17,800mg/kg, ihl guinea pig LCLD: 10,000ppm.	

Section 12: Ecological Information

Ecotoxicity:	**Toluene:** Fish: Pink salmon *(Oncorhynchus gorbuscha):* LC_{50}=6.86 - 8.48 mg/l, 96 hours. Daphnia: Water flea (*Daphnia magna)*: EC50 5.46 - 9.83 mg/l, 48 hours. **Methanol:** Fish: Fathead minnow (*Pimephales promelas*), 96 h: LC_{50}> 100 mg/l. Daphnia: Water flea (*Daphnia magna),*48h: EC50 > 10,000 mg/l.

Section 13: Disposal Considerations

To the best of our knowledge, this material does not require special disposal. However each facility must determine proper disposal methods to comply with local, state, and federal regulations.

Section 14: Transport Information

For Refrigerator, Freezer and Incubator/Room Temperature

DOT:

Proper Shipping Name: Stoddard Solvent/ Red mineral liquid/ Petroleum Distillate/ N.O.S.
Hazard Class: 3
UN/NA: UN1268
Packing Group: III

IATA:

Proper Shipping Name: Stoddard Solvent/ Red mineral liquid/ Petroleum Distillate/ N.O.S.
Hazard Class: 3
IATA UN/NA: UN1268
Packing Group: III

For Ultra Low Freezer

DOT:

Proper Shipping Name: Flammable Liquid, n.o.s. (Toluene & Methanol)
Hazard Class: 3
UN/NA: UN1993
Packing Group: II

IATA:

Proper Shipping Name: Flammable Liquid, n.o.s. (Toluene & Methanol)
Hazard Class: 3
IATA UN/NA: UN1993
Packing Group: II

Quantities shipped (excluding air) are under the volume required for hazardous material labeling and placarding per 49CFR173.4.

Section 15: Regulatory Information

U.S. Federal Regulations

Toluene:	TSCA listed SARA 313 listed CERCLA, identified 1000 RCRA 261.33, identified U220 SARA Title III, Sections 311/3312 classified in Acute Health, Chronic Health, and Fire Hazard categories
Red mineral liquid:	TSCA listed as UVCB (Unknown, variable comparison or biological) SARA Title III, Sections, 311/312 classified in Delayed Health and Fire Hazard categories
Methanol:	Reference 49 CFR, 172.101, 172.102, 173.119, 173.6

State Regulations

Toluene:	WARNING! Known by state of California to cause birth defects or other reproductive harm.

NFPA Ratings:	**Toluene:** H2, F3 **Red mineral liquid:** F2

	Methanol: H1, F3

Section 16: Other

This product is intended for use as supplied.

To the best of our knowledge, the information contained herein is accurate. However, Streck assumes no liability whatsoever for completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Date of preparation/ last revision: August 30, 2021