Material Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Material Name: Hi-Temp 1027
Uses: High Temperature Paint
Product Codes: Hi-Temp 1027 CS, 1027 SS, 1027 HA
Product Colors: 1027-90, 1027-00, 1027-9003

Supplier: Hi-Temp Coatings Technology, Inc.
629 Massachusetts Avenue
Boxborough, MA 01719
U.S.A.

Telephone Information: +1 978-635-1110
Fax Information: +1 978-635-1124
Email Information: hitemp@hitempcoatings.com

Emergency Telephone Number: +001-813-248-0585

Other Information – Hi-Temp is a trade-name owned by Hi-Temp Coatings Technology Inc.

2. HAZARDS IDENTIFICATION

Classification: Harmful, highly flammable, irritant, dangerous for the environment

Health Hazards - Harmful: danger or serious damage to health by prolonged exposure through inhalation. Vapors may cause drowsiness and dizziness. Slightly irritating to respiratory system. Irritating to skin. Moderately irritating to eyes. Harmful: may cause lung damage if swallowed. Possibility of organ or organ system damage from prolonged exposure; see Chapter 11 for details. Target organ(s): Auditory System, Central Nervous System (CNS), Respiratory System, Visual System. Possible risk of harm to the unborn child.

Signs & Symptoms - Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death. Auditory system effects may include temporary hearing loss and/or ringing in the ears. Visual system disturbances may be evidenced by decreases in the ability to discriminate between colors.

Aggravated Medical Condition: Pre-existing medical conditions of the following organ(s) or organ system(s) may be aggravated by exposure to this material: auditory system, central nervous system (CNS), respiratory system, eyes, skin, visual system and kidney.

Safety Hazards – Flammable. In use, may form flammable/explosive vapor-air mixture. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire.
Environmental Hazards - Not classified as dangerous under EC criteria.

3. COMPSITION/INFORMATION ON INGREDIENTS

Hazardous Components

Chemical Name	CAS#	EINECS#	%.	Symbol(s)	Classification
1-Chloro-4-Trifluorométhyl-benzène	98-56-6	202-681-1	5	F Xi	R10 R36/37/38
Xylene	1330-20-7	215-535-7	4	Xn Xi	R10 R20/21 R38
Ethyl benzene	100-41-4	202-849-4	1.1	F Xn	R11 R20
Toluene	108-88-3	203-625-9	1.0	F	R11 R38 R48/20 R63 R65 R67
Aromatic Hydrocarbon	70693-06-0	274-759-3	13	XI F	R-10 R-11 R-38

4. FIRST AID MEASURES

Inhalation - Keep victim calm. Obtain medical treatment immediately. ***DO NOT DELAY***. Remove to fresh air. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

Skin Contact - Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact - Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

Ingestion - If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Advice to Physician - Potential for chemical pneumonitis. Consider: gastric lavage with protected airway, administration of activated charcoal. Potential for cardiac sensitization, particularly in abuse situations. Hypoxia or negative inotrope may enhance these effects. Consider: oxygen therapy.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.
Specific Hazards - The vapor is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolved if incomplete combustion occurs.

Extinguishing Media - Foam, spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable Extinguishing Media - Do not use water in a jet. Water may be used to cool exposed containers.

Protective Equipment for Firefighters - Wear full protective clothing and self-contained breathing apparatus.

Additional Advice – During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

6. ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Material Safety Data Sheet. Observe all relevant local and international regulations.

Protective measures - Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low areas. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and firefighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapor or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.

Clean Up Methods - For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional Advice - Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapor is heavier than air, spreads along the ground and distant ignition is possible. Vapor may form an explosive mixture with air. See Chapter 13 for information on disposal.

7. HANDLING AND STORAGE

General Precautions - Avoid breathing vapors or contact with material. Use only in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of
this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

Handling - Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<= 1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Avoid splash filling. Do

NOT use compressed air for filling, discharging, or handling operations. Handle and open container with care in a well-ventilated area.

Storage - Vapors from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapor treatment system. Bulk storage tanks should be diked (bounded). Must be stored in a diked (bounded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products which are not harmful or toxic to man or to the environment. The vapor is heavier than air. Beware of accumulation in pits and confined spaces.

Product Transfer - Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.

Recommended Materials – for containers or container linings use mild steel, stainless steel.

Unsuitable Materials Container Advice - Natural, butyl, neoprene or nitrile rubbers. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, or grind.

Additional Information - Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	CAS#	EINECS#	Exposure Level	
1-Chloro-4-Trifluorométhyl-benzène	98-56-6	202-681-1	OSHA PEL ACGIH	No limits established
Xylene	1330-20-7	215-535-7	OSHA PEL ACGIH TLV	100 ppm 100 ppm
Ethyl benzene	100-41-4	202-849-4	OSHA PEL STEL ACGIH TLV	100 ppm 125 ppm 25 ppm
Toluene	108-88-3	203-625-9	OSHA PEL ACGIH TLV STEL	100 ppm 50 ppm 150 ppm
Aromatic Hydrocarbon	70693-06-0	274-759-3	OSHA PEL ACGIH TLV	No Limits established

Exposure Controls - depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: use sealed systems as far as possible. Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended as well as eye washes and showers.

Personal Protective Equipment - Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection - If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapors [boiling point >65 °C (149 °F)] meeting EN141. Where respiratory protective equipment is required, use a full-face mask. Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Hand Protection - When hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS: 2161) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, and dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced.

Eye Protection - Chemical splash goggles (chemical mono-goggles). Approved to EU Standard EN166, AS/NZS: 1337.

Protective Clothing - Chemical resistant gloves/gauntlets. Where risk of splashing or in spillage clean up, use chemical resistant one-piece overall with integral hood.

Monitoring Methods - Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Examples of sources of recommended air monitoring methods are given below or contact supplier. Further national methods may be available. National Institute of Occupational Safety and Health (NIOSH), USA: Manual of analytical Methods http://www.cdc.gov/niosh/nmam/nmammenu.html Occupational Safety and Health Administration (OSHA), USA.

Environmental Exposure Controls - Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapor.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Gray/black liquid slurry
Odor:	Aromatic
Boiling point:	110-150ºC, (230˚F-302˚F)
Flash point:	18.33ºC, 65ºF
Explosion/Flammability limits in air:	1.2 – 8%(V)
Auto-ignition temperature:	393 – 530ºC (739.4˚F-986˚F)
Vapor pressure:	Typical 3-4 kpa@20ºC, 68ºF
Specific gravity:	1.95
Density:	16lbs. per gallon – 1.92kg/liter
Water solubility:	None
Volatile organic carbon content:	390 mg/l, 3.35 lbs/g
Volatiles by volume:	50%
Nonvolatile by weight:	76%
Evaporation rate:	0.1
BuAce:	1

10. STABILITY & REACTIVITY

Stability - Stable under normal conditions of use. Reacts with strong oxidizing agents.

Conditions to Avoid - Avoid heat, sparks, open flames and other ignition sources. Prevent vapor accumulation.

Materials to Avoid - Strong oxidizing agents.

Hazardous Decomposition Products - Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases, including carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation.

11. TOXICOLOGICAL INFORMATION

NTP Carcinogen - No **Monographs IARC - Yes** **OSHA Regulated- No**

Basis for Assessment - Information given is based on product data.

Acute Oral Toxicity - Low toxicity: LD50 >2000g/kg, Rat Aspiration into the lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal.

Acute Dermal Toxicity- Low toxicity: LD50 >2000 mg/kg, Rabbit.

Skin Irritation - Irritating to skin.

Eye Irritation - Moderately irritating to eyes (but insufficient to classify).

Respiratory Irritation - Inhalation of vapors or mists may cause irritation to the respiratory system.

Sensitization - Not a skin sensitizer.

Mutagenicity - Not mutagenic.

Carcinogenicity - Not carcinogenic in animal studies.

Reproductive & Development Toxicity - Does not impair fertility.

Additional Information - Exposure to very high concentrations of similar materials has been associated with irregular heart rhythms and cardiac arrest. Abuse of vapors has been associated with organ damage and death.

12. ECOLOGICAL INFORMATION

Acute Toxicity
Fish - Toxic: 1 < LC/EC/IC50 <= 10 mg/l
Aquatic Invertebrates - Harmful: 10 < LC/EC/IC50 <= 100 mg/l
Algae - Low toxicity: LC/EC/IC50 > 100 mg/l
Mobility - Floats on water. If product enters soil, it will be highly mobile and may contaminate ground water.

Persistence/degradability - Readily biodegradable meeting the 10 day window criterion. Oxidizes rapidly by photo-chemical reactions in air.

Bioaccumulation - Does not bio-accumulate significantly.

Other Adverse Effects - In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life.

13. DISPOSAL CONSIDERATIONS

Material Disposal - Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Container Disposal - Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld un-cleaned drums. Send to drum re-coverer or metal re-claimer.

Local Legislation - Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

ADR

Class : 3
Packing group : II
Classification code : F1
Hazard identification No : 33
UN No : 1263
Danger label (primary risk) : 3
Proper shipping name : Paint

RID

Class : 3
Packing group : II
Classification code : F1
Hazard identification No : 33
UN No : 1263
Danger label (primary risk) : 3
Proper shipping name : Paint

IMDG

Identification number UN 1263
Proper shipping name: Paint
Class / Division: 3

Packing group: II
Marine pollutant: No

IATA (Country variations may apply)

UN No : 1263
Proper shipping name : Paint
Class / Division : 3

Packing group : II

U.S. Department of Transportation (DOT)

Proper Shipping Name: Paint
DOT Hazard Class: 3
UN Number: UN 1263
DOT Packing Group: PG II

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

Labeling:


Harmful


Highly Flammable


Class D2

EC Label Name: Paint
EC label/EC Number: N/A
EC Annex I Number: N/A

R-phrases
R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: May cause lung damage if swallowed.
R67 Vapors may cause drowsiness and dizziness.

S-phrases
S36/37 wear suitable protective clothing and gloves.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
S46 If swallowed, seek medical advice immediately and show this container or label.
S2 Keep out of reach of children.

16. OTHER INFORMATION

R-phrase(s)

R11 Highly Flammable.
R38 Irritating to skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63 Possible risk of harm to the unborn child.
R65 Harmful: May cause lung damage if swallowed.
R67 Vapors may cause drowsiness and dizziness.

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not, therefore, be construed as guaranteeing any specific property of the product.