MATERIAL SAFETY DATA SHEET

Bonstone Materials Corporation

Date Issued: 02/06/2007
MSDS No: 24
Date Revised: 02/08/2008
Revision No: 2

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT CODE: Touchstone Polyester Flowing

MANUFACTURER

Bonstone Materials Corporation
707 Swan Drive
Mukwonago WI 53149
Emergency Contact: Mike Beckmann
Product Stewardship: 262-363-9877

24 HR. EMERGENCY TELEPHONE NUMBERS

Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES: Can cause severe irritation, redness, tearing, blurred vision.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

SKIN ABSORPTION: May be absorbed through the skin in harmful amounts.

INGESTION: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.

INHALATION: Excessive inhalation of vapors can cause nasal irritation, dizziness, weakness, fatigue, nausea, headache, possible unconsciousness, and even asphyxiation.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

CHRONIC EFFECTS: Possible cancer hazard based on tests with laboratory animals.

CARCINOGENICITY: Possible cancer hazard - contains Styrene which may cause cancer based on animal data.

TARGET ORGAN STATEMENT: Over exposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals, and may aggravate pre-existing disorders of these organs in humans: mild, reversible kidney effects, effects on hearing, respiratory tract (nose, throat, and airways), testis, liver. Over exposure to this material (or its components) has been suggested as a cause of the following effects in humans, and may aggravate pre-existing disorders of these organs: central nervous system effects, mild effects on color vision, effects on hearing, and respiratory tract damage (nose, throat, and airways).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS
Unsaturated polyester base resin	Trade secret		
Styrene	26 - 30	000100-42-5	- -

4. FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get immediate medical attention.

SKIN: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical

attention if symptoms occur. Wash clothing before reuse.

INGESTION: Do NOT induce vomiting. Keep person warm, quiet, and get medical attention. Aspiration of the material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: (88°F)

FLAMMABLE LIMITS: 1 to 6

GENERAL HAZARD: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

EXPLOSION HAZARDS: Vapors can travel to a source of ignition and flash back.

FIRE FIGHTING PROCEDURES: Use alcohol foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Firefighters and others who may be exposed to products of combustion should wear full firefighting turnout gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use.

6. ACCIDENTAL RELEASE MEASURES

GENERAL PROCEDURES: Stop the leak, if possible. Shut off or remove all ignition sources. Construct a dike to prevent spreading (includes molten liquids until they freeze).

RELEASE NOTES: Notify authorities if any exposures to the general public or environment occurs or is likely to occur.

SPECIAL PROTECTIVE EQUIPMENT: Remove contaminated clothing and wash before reuse.

COMMENTS: If recovery is not feasible, admix with dry soil, sand or non-reactive absorbent and place in an appropriate chemical waste container. Transfer to containers by suction, preparatory for later disposal. Place in metal containers for recovery or disposal. Flush area with water spray. Clean-up personnel must be equipped with self-contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

HANDLING: Keep away from heat, sparks and flame.

STORAGE: Exposure to excessive heat or open flame, storage in open containers, prolonged storage (6 months), storage above 100 Deg F (38 Deg C), and contamination with oxidizing agents.

COMMENTS: Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		**ppm**	**mg/m³**	**ppm**	**mg/m³**
Styrene	**TWA**	50 ppm		20 ppm	
	STEL	100 ppm		40 ppm	

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

SKIN: Where splashing is possible, full chemically resistant protective clothing (e.g. acid suit) and boots are required.

RESPIRATORY: NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

WORK HYGIENIC PRACTICES: Provide readily accessible eyewash stations and safety showers. Wash at the end of each work shift and before eating, smoking, or using the toilet.

OTHER USE PRECAUTIONS: Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield.

COMMENTS: Avoid breathing any (dust, vapor, mist, gas) that may be generated when grinding cured material.

9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Flash Point	Boiling Point (°C)	Solubility in Water	Specific Gravity
Styrene	88	145.22	Negligible	1.145

PHYSICAL STATE: Liquid

ODOR: Sharp aromatic odor.

APPEARANCE: Light colored liquid.

PERCENT VOLATILE: 28

VAPOR PRESSURE: 4.3 mmHg at 20°C (68°F)
Notes: For styrene

VAPOR DENSITY: 3.6 (Air=1)

BOILING POINT: (293.4°F) to (293.4°F)

FLASHPOINT AND METHOD: (88°F)

SOLUBILITY IN WATER: Negligible

EVAPORATION RATE: Slower than ether

SPECIFIC GRAVITY: 1.295 to 1.343 at 25°C (77°F)

(VOC): ~ 380.000 to 400 grams/liter

10. STABILITY AND REACTIVITY

STABILITY: Stable.

POLYMERIZATION: May occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, low molecular weight hydrocarbons, and organic acids.

INCOMPATIBLE MATERIALS: Avoid contact with strong alkalies, strong mineral acids, and oxidizing agents.

11. TOXICOLOGICAL INFORMATION

ACUTE

Chemical Name	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)
Styrene	4.37 g/kg (rat)	> 5000 mg/kg (rabbit)

CARCINOGENICITY

Chemical Name	IARC Status
Styrene	Possible human carcinogen.

IARC: Suspect cancer hazard.

COMMENTS: Styrene has been identified as a possible human carcinogen by the International Agency for Research on Cancer (IARC). The IARC determination is based on "limited evidence" in animals and other "relevant data". IARC concedes there is "inadequate evidence" on humans for its findings.
The Styrene Information and Research Center (SIRC) recently sponsored studies to evaluate potential health effects in laboratory rats and mice exposed by inhalation to styrene for six hours per day for five days per week of their lifetime. The rat study, completed in 1996, showed no increased incidence of tumors related to styrene exposure at levels up to 1000 ppm (ppm). The results of the mouse study are in the process of being analyzed, and so far only the lungs have been evaluated. The number of lung tumors observed at exposure levels of 20 to 160 ppm was increased as compared to the number of tumors seen in unexposed mice. These lung tumor results from the mouse study have been added to the MSDS for styrene.
The lung effects in the new mouse study are in contrast to findings in other studies in both rodents and humans, including the recent SIRC-sponsored study in rats. No link between styrene exposure and an increased incidence of cancer has been found collectively in eight studies of workers in the reinforced plastics and composites industries prior to 1992, or in two subsequent studies of composites/reinforced plastics workers. Altogether, over 90,000 people have been studied. Exposure levels in these industries are above the levels routinely measured in styrene and polystyrene production.
Also in the recent animal studies, irritation and degenerative effects on the olfactory cells in the nose (responsible for the sense of smell) were observed in mice exposed repeatedly by inhalation to 20 ppm and above, and in rats exposed to 50 ppm and above. Atrophy (degeneration) of the olfactory nerve was observed at levels at or above 40 ppm in mice and at or above 500 ppm in rats. SIRC is conducting follow-up research to further understand these findings and their possible importance to humans. Liver damage has been reported in mice at exposure levels of 100 ppm or above; comparable liver damage has not been reported in rats or humans exposed to styrene. It appears that mice are more sensitive to styrene than are other species.
Information about potential damage to olfactory cells, irritation in the respiratory tract, and potential liver damage has been added to the MSDS for styrene.
We recommend that the precautions in this MSDS be followed.

12. ECOLOGICAL INFORMATION

COMMENTS: No information.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements be be more restrictive or otherwise different from federal laws and

regulations.

14. TRANSPORT INFORMATION

COMMENTS: Flammable liquid, Resin Solution, Class 3, UN 1866, Packing Group III

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Immediate health hazard, delayed health hazard.

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Styrene	26 - 30	000100-42-5

CALIFORNIA PROPOSITION 65

Chemical Name	Wt.%	Listed
Styrene	26 - 30	• Cancer

16. OTHER INFORMATION

REASON FOR ISSUE: VOC content

APPROVED BY: Mike Beckmann **TITLE:** President

INFORMATION CONTACT: Mike Beckmann

REVISION SUMMARY: Revision #: 2 This MSDS replaces the February 08, 2008 MSDS. Any changes in information are as follows: In Section 9 Physical State Code Appearance

MANUFACTURER DISCLAIMER: 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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or any process, unless specified in the text.