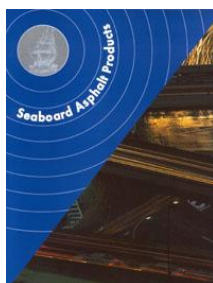


# MATERIAL SAFETY DATA SHEET



## Seaboard Asphalt Products Company

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, Australian WorkSafe, Japanese Industrial Standard JIS Z 7250:2000, and European Union standards

### 1. PRODUCT IDENTIFICATION

<u>TRADE NAME (AS LABELED):</u>	<b>Bond X Green</b>
<u>PRODUCT USE:</u>	Cold Mix Asphalt
<u>MANUFACTURER'S NAME:</u>	Seaboard Asphalt Products
<u>ADDRESS:</u>	3601 Fairfield Road Baltimore, Maryland
<u>BUSINESS PHONE:</u>	1-410-355-0330 (800) 536-0332 Toll Free
<u>WEBSITE:</u>	<a href="http://www.seboardasphalt.com">www.seboardasphalt.com</a>
<u>DISTRIBUTED BY:</u>	NuGeneration Technologies 1155 Park Ave. Emeryville, CA 94608
<u>BUSINESS PHONE:</u>	707-820-4080 888-996-8436 Toll Free
<u>WEBSITE:</u>	<a href="http://www.nugentec.com">www.nugentec.com</a>
<u>DATE OF PREPARATION:</u>	May 23, 2010

### 2. HAZARD IDENTIFICATION

EU LABELING AND CLASSIFICATION: This product meets the definition of the following hazard class as defined by the European Economic Community Guidelines.

Classification: [Xi] Irritant

Risk Phrases: R20/21: Harmful by inhalation and in contact with skin.

Safety Phrases: S23: Do not breath gas/fumes/vapors/spray

**EMERGENCY OVERVIEW: Product Description:** This product is a Black viscous fluid mixed with course and fine aggregate with an asphalt odor. **Health Hazards:** Contact with molten product can cause severe thermal burns. Exposure to vapors may irritate the eyes, skin and respiratory tract. **Flammability Hazards:** Typical flash point is greater than 260°F. **Reactivity Hazards:** None known. **Environmental Hazards:** Not expected to be a significant environmental hazard. **Emergency Considerations:** Emergency responders must wear the proper personal protective equipment (and have appropriate fire-suppression equipment) suitable for the situation to which they are responding.

**SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE:** The most significant routes of overexposure for this product are by inhalation of vapors and skin contact to molten product. The symptoms of overexposure are described in the following paragraphs.

**INHALATION:** Inhalation of low concentrations (50 – 100 ppm) can irritate the eye and respiratory tract and may cause nervousness, cough, nausea and headache. Prolonged exposure to concentrations between 250 and 600 ppm may cause pulmonary edema (fluid on the lungs) and bronchial pneumonia. Brief exposure to concentrations above 500 ppm can cause unconsciousness and may be fatal.

**CONTACT WITH SKIN or EYES:** Skin contact with molten product can cause severe thermal burns. Vapors may irritate the skin. Vapors can irritate the eyes causing redness, and pain.

**INGESTION:** Not considered a likely route of exposure during normal product use conditions.

**ACUTE:** Contact with molten material will cause thermal burns to skin. Vapors may cause irritation to eyes and respiratory tract.

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**CHRONIC:** Repeated inhalation can produce varying degrees of respiratory irritation or lung damage.

**TARGET ORGANS:**

**ACUTE:** Skin, eyes, respiratory system.

**CHRONIC:** Petroleum asphalt and the asphalt additives in this product are not listed as a carcinogen by NTP, OSHA, or IARC. Crystalline silica, a component of this product, is listed by IRAC but not by OSHA. IRAC has determined that there is sufficient evidence for carcinogenicity to experimental animals exposed to crystalline silica and limited evidence for carcinogenicity to humans. "Limited evidence" means that a causal relationship is possible; however, other explanations such as chance, bias or confounding factors cannot adequately be excluded. NTP has listed crystalline silica as reasonably anticipated to be a human carcinogen. Because this product contains substances listed as carcinogens by these organizations which may result in exposures, the following warning is required pursuant to California Proposition 65:

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

## 3. COMPOSITION and INFORMATION ON INGREDIENTS

Hazardous Ingredients:	CAS #	EINECS #	ICSC #	WT %	Hazard Symbol; Risk Phrases
Aggregate (crushed stone, sand and gravel)	N.E.	N.E.	N.E.	90 – 95%	HAZARD CLASSIFICATION: NOT CLASSIFIED RISK PHRASES: NONE
Asphalt	8052-42-4	232-490-9	N.E.	3 – 6%	HAZARD CLASSIFICATION: NOT CLASSIFIED RISK PHRASES: NONE
Proprietary Softening Agent	N.E.	N.E.	N.E.	1 – 5%	HAZARD CLASSIFICATION: NOT CLASSIFIED RISK PHRASES: NONE
Stabilizing Agent	Proprietary	N.E.	N.E.	>0.7125%	HAZARD CLASSIFICATION: NOT CLASSIFIED RISK PHRASES: NONE
Proprietary Mixture	Proprietary	N.E.	N.E.	0.1 – 1.75%	HAZARD CLASSIFICATION: NOT CLASSIFIED RISK PHRASES: NONE

N.E. = Not Established.

NOTE: ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard *JIS Z 7250: 2000*.

See Section 15 for full text of Ingredient Risk Phrases and Safety Phrases

## 4. FIRST-AID MEASURES

Contaminated individuals of chemical exposure must be taken for medical attention if any adverse effect occurs. Rescuers should be taken for medical attention, if necessary. Take copy of label and MSDS to health professional with contaminated individual.

**SKIN EXPOSURE:** If this product contaminates the skin, wash with soap and water after use or before eating or smoking. Remove exposed or contaminated clothing, taking care not to contaminate eyes. The contaminated individual should seek medical attention if any adverse effect occurs. If molten asphalt contacts skin, cool immediately with cold water. For extensive burns obtain medical attention immediately. Do not use solvents to remove asphalt from skin.

**EYE EXPOSURE:** If hot material splashes into eyes, immediately flush eyes with water. Do not attempt to remove particles from eyes. Seek medical attention immediately.

**INHALATION:** If breathing becomes difficult remove contaminated individual to fresh air. If breathing has stopped give artificial respiration. Seek medical attention immediately.

**INGESTION:** Routine use of this product is not expected to cause any situation which could lead to ingestion. If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow.

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**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Existing abnormal conditions of the skin and/or respiratory system may be aggravated by exposure to asphalt fumes and by petroleum distillates. Exposure to dust from disrupted hardened asphalt concrete may aggravate respiratory diseases or dysfunctions, and skin and eye conditions.

**RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and eliminate overexposure.

## 5. FIRE-FIGHTING MEASURES

**FLASH POINT:** >260°F

**AUTOIGNITION TEMPERATURE:** Not Applicable

**FLAMMABLE LIMITS (in air by volume, %):** Lower NA Upper NA

**FIRE EXTINGUISHING MATERIALS:** Use fire extinguishing materials appropriate for Class B fire including dry extinguishing media, carbon dioxide, foam.

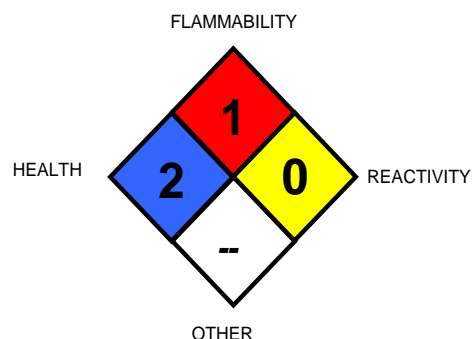
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Adding water to hot asphalt presents an explosion hazard.

Explosion Sensitivity to Mechanical Impact: Not Sensitive

Explosion Sensitivity to Static Discharge: Not Sensitive

**SPECIAL FIRE-FIGHTING PROCEDURES:** Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Isolate materials not yet involved in the fire and protect personnel. Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

### NFPA RATING



Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate  
3 = Serious 4 = Severe

## 6. ACCIDENTAL RELEASE MEASURES

**SPILL AND LEAK RESPONSE:** Proper protective equipment should be used. Personnel should be trained for spill response operations. Isolate area and keep unnecessary personnel away.

Trained personnel following pre-planned procedures should handle non-incident releases. Appropriate Personal Protective Equipment should be used. Shut off all ignition sources. Allow material to harden and transfer into container for proper disposal. Prevent material from entering sewer or confined spaces, waterways, soil or public waters.

Place all spill residue in an appropriate container and seal. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

## 7. HANDLING and STORAGE

**WORK PRACTICES AND HYGIENE PRACTICES:** As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing dusts generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately.

**STORAGE AND HANDLING PRACTICES:** All employees who handle this material should be trained to handle it safely. Store away from all ignition sources and open flames, in accordance with applicable laws and regulations. Storage containers should be ventilated to reduce fire and explosion hazard, and possible overexposure of personnel to fumes and vapors. Do not weld, heat, or drill container. Emptied container may contain hazardous material which may ignite explosively if heated sufficiently. When petroleum asphalt products are heated, potentially irritating emissions may be released. Respirable dust may be generated when hardened asphalt concrete is subjected to mechanical forces, such as in demolition work, surface treatment and recycling of pavement. Tripping accidents have occurred because of asphalt buildup on bottoms of shoes and boots. Materials should be removed regularly to prevent such accidents. Do not store near food and beverages or smoking material. Avoid incompatible materials.

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## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

**VENTILATION AND ENGINEERING CONTROLS:** Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Use local exhaust ventilation, and process enclosure if necessary, to control airborne dust. Ensure eyewash/safety shower stations are available near areas where this product is used.

### EXPOSURE LIMITS/GUIDELINES:

<u>Chemical Name</u>	<u>CAS#</u>	<u>ACGIH-TLV's</u>	<u>OSHA PEL's</u>	<u>NIOSH- TLV's</u>	<u>Other</u>
Asphalt	8052-42-4	0.5 mg/m <sup>3</sup>	NE	5 mg/m <sup>3</sup> Ceiling	NE

NE = Not Established.

NIC = Notice of Intended Change

See Section 16 for Definitions of Terms Used.

Currently, International exposure limits are established for the components of this product. Please check with competent authority in each country for the most recent limits in place.

*The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.*

**RESPIRATORY PROTECTION:** If airborne concentrations above applicable exposure limits will require a respirator. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. Federal OSHA's Respiratory Protection Standard (1910.134-1998) or the regulations of various U.S. States, Canada, EU Member States, or those of Japan. Air-purifying respirators with dust/mist/fume filters are recommended if operations may produce mists or sprays from this product.

**EYE PROTECTION:** Chemical safety glasses or full face shield. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

**HAND PROTECTION:** Use impervious gloves. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards.

**BODY PROTECTION:** Cover exposed skin areas. If necessary, refer to appropriate Standards of Canada, or appropriate Standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

## 9. PHYSICAL and CHEMICAL PROPERTIES

**VAPOR DENSITY:** >1

**SPECIFIC GRAVITY @ 20°C:** N.E. (water=1)

**VAPOR PRESSURE, mm Hg @ 20°C (68°F):** NA

**ODOR THRESHOLD:** Asphalt

**APPEARANCE, ODOR and COLOR:** Black viscous fluid mixed with coarse and fine aggregate.

**EVAPORATION RATE (n-BuAc=1):** Not applicable

**SOLUBILITY IN WATER:** Insoluble

**pH:** Not Determined

## 10. STABILITY and REACTIVITY

**STABILITY:** Stable.

**DECOMPOSITION PRODUCTS:** When heated to decomposition, carbon monoxide, hydrogen sulphide, sulphur oxides.

**MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE:** This product is incompatible with strong oxidizers. Adding water to hot asphalt creates an explosion hazard.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Will not occur.

**CONDITIONS TO AVOID:** Heat approaching flash and open flames.

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## 11. TOXICOLOGICAL INFORMATION

**TOXICITY DATA:** The specific toxicology data available for components greater than 1% in concentration are as follows.

**Toxicological Data:** Acute and chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: liver, kidney, lung, skin, spleen, thymus, blood elements, lymph nodes, testes, bone marrow, and nervous system.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: anemia, pallor, fatigue, loss of appetite, anxiety, and melanosis.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately inhaling vapors may be harmful or fatal.

Emissions from heated petroleum asphalt may have an unpleasant odor, and may produce nausea and irritation of the upper respiratory tract. Naptha component vapors (hot asphalt) at high concentrations in enclosed spaces may cause symptoms of euphoria, respiratory irritation and edema, headaches, dizziness, drowsiness, conclusions, coma, cyanosis and generalized depression. Hydrogen sulfide causes respiratory irritation at concentrations of 4 to 100 ppm. At low concentration H<sub>2</sub>S has a rotten egg odor. At elevated concentrations H<sub>2</sub>S acts as a systemic poison, causing unconsciousness and death by respiratory paralysis.

Chronic inhalation of petroleum asphalt emissions may contribute to respiratory irritation. If hardened asphalt concrete is subjected to mechanical forces which generate dust particles, exposure to respirable crystalline silica dust is possible.

### Asphalt (8052-42-4)

Oral LD50 Rat: >5000 mg/kg; Dermal LD50 Rabbit:>2000 mg/kg

### Proprietary Mixture

Oral LD50 Rat: 2000 mg/kg; Dermal LD50 Rat:2250 mg/kg; Dermal LD50 Rabbit:3560 mg/kg

**SUSPECTED CANCER AGENT:** The components of these products are listed by agencies tracking the carcinogenic potential of chemical compounds as follows:

Petroleum asphalt and the asphalt additives in this product are not listed as a carcinogen by NTP, OSHA, or IARC. Crystalline silica, a component of this product, is listed by IRAC but not by OSHA. IRAC has determined that there is sufficient evidence for carcinogenicity to experimental animals exposed to crystalline silica and limited evidence for carcinogenicity to humans. "Limited evidence" means that a causal relationship is possible; however, other explanations such as chance, bias or confounding factors cannot adequately be excluded. NTP has listed crystalline silica as reasonably anticipated to be a human carcinogen. Because this product contains substances listed as carcinogens by these organizations which may result in exposures, the following warning is required pursuant to California Proposition 65:

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

**IRITANCY OF PRODUCT:** Airborne dusts of this product can irritate eyes, and respiratory tract.

**SENSITIZATION TO THE PRODUCT:** These products are not known to cause human skin or respiratory sensitization.

**REPRODUCTIVE TOXICITY INFORMATION:** Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans.

Embryotoxicity: The components of this product are not reported to produce embryotoxic effects in humans.

Teratogenicity: The components of this product are not reported to cause teratogenic effects in humans.

Reproductive Toxicity: The components of this product are not reported to cause reproductive effects in humans.

## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

**Ecotoxicity:** This material may be toxic to fish and other aquatic life and may impede growth of vegetation.

Component Analysis - Ecotoxicity - Aquatic Toxicity

Proprietary Mixture

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	728 mg/L
72 Hr EC50 Scenedesmus subspicatus	210 mg/L

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## 13. DISPOSAL CONSIDERATIONS

**PREPARING WASTES FOR DISPOSAL:** Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Canada, Australia, EU Member States and Japan.

No EPA Waste Numbers are applicable for this product's components

## 14. TRANSPORTATION INFORMATION

US DOT, IATA, IMO, ADR:

**U.S. DEPARTMENT OF TRANSPORTATION (DOT) SHIPPING REGULATIONS:** This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101. Non-Regulated

**TRANSPORT CANADA, TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:** These products are not classified as Dangerous Goods, per regulations of Transport Canada.

**INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):** These products are not classified as Dangerous Goods, by rules of IATA:

**INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION:** These products are not classified as Dangerous Goods by the International Maritime Organization.

**EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR):** These products are not classified by the United Nations Economic Commission for Europe to be dangerous goods

## 15. REGULATORY INFORMATION

### **UNITED STATES REGULATIONS:**

**U.S. SARA REPORTING REQUIREMENTS:** The components of these products are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

**U.S. SARA THRESHOLD PLANNING QUANTITY:** There are no specific Threshold Planning Quantities for any component of these products. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) therefore applies, per 40 CFR 370.20.

**U.S. CERCLA REPORTABLE QUANTITY (RQ):** Not applicable.

**U.S. TSCA INVENTORY STATUS:** The components of these products are listed in the TSCA Inventory.

**CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65):** A component of this products is on the CA Proposition 65 Lists.

### **COMPONENT ANALYSIS - STATE**

The following components appear on one or more of the following state hazardous substances lists:

<u>COMPONENT</u>	<u>CA</u>	<u>MA</u>	<u>MN</u>	<u>NJ</u>	<u>PA</u>	<u>RI</u>
Asphalt	Yes	Yes	Yes	Yes	Yes	Yes
Proprietary Mixture	No	Yes	No	Yes	Yes	No

### **CANADIAN REGULATIONS:**

**CANADIAN DSL/NDL INVENTORY STATUS:** The components of this product are on the DSL Inventory, or are exempted from listing.

No components are listed in the WHMIS IDL.

**CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS:** No component of this product is on the CEPA First Priorities Substance Lists.

**CANADIAN WHMIS CLASSIFICATION and SYMBOLS:** Not Classified

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## EUROPEAN ECONOMIC COMMUNITY INFORMATION:

EU LABELING AND CLASSIFICATION: This product meets the definition of the following hazard class as defined by the European Economic Community Guidelines.

Classification: [Xi] Irritant

Risk Phrases: R20/21: Harmful by inhalation and in contact with skin.

Safety Phrases: S23: Do not breath gas/fumes/vapors/spray

Symbol:



## **AUSTRALIAN INFORMATION FOR PRODUCT:**

**AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS:** The components of this product are listed on the AICS.

**HAZARDOUS SUBSTANCES INFORMATION SYSTEM:** None of the substances are listed by the Hazardous Substances Information System as a Hazardous Substance.

**STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS:** Not applicable.

## **JAPANESE INFORMATION FOR PRODUCT:**

**JAPANESE MINISTER OF INTERNATIONAL TRADE AND INDUSTRY (MITI) STATUS:** The components of this product are not listed as Class I Specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

**JAPANESE ENCS INVENTORY:** The components of this product are on the ENCS Inventory as indicated in the section on International Chemical Inventories, below.

**POISONOUS AND DELETERIOUS SUBSTANCES CONTROL LAW:** No component of this product is a listed Specified Poisonous Substance under the Poisonous and Deleterious Substances Control Law.

## **INTERNATIONAL CHEMICAL INVENTORIES:**

Listing of the components on individual country Chemical Inventories is as follows:

Asia-Pac: Listed

Australian Inventory of Chemical Substances (AICS): Listed

Korean Existing Chemicals List (ECL): Listed

Japanese Existing National Inventory of Chemical Substances (ENCS): Listed

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed

Swiss Giftlist List of Toxic Substances: Listed

U.S. TSCA: Listed

## 16. OTHER INFORMATION

**PREPARED BY:** Paul Eigbrett

MSDS Authoring Services

**DATE OF PRINTING:** June 2, 2010

Although the information set forth herein is presented in good faith and believed to be correct as of the date of issuance, it has been furnished by our suppliers; consequently, Seaboard Asphalt Products makes no representations or warranties, express or implied, with respect to information herein presented. The information set forth herein is supplied upon the condition that the persons receiving same will make their own determination as to suitability for their purposes prior to use and relates only to the specific product described and not to such product in combination with any other product. In no event will Seaboard Asphalt Products be responsible for damages of any nature resulting from the use of or reliance upon this information.