

MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL NAME: ASPHALT ROLLED ROOFING

PRODUCT/TRADE NAME: Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic® GTS-FR, Flintlastic® GTS-FR CoolStar

PRODUCT DESCRIPTION: MODIFIED BITUMEN ROLLED ROOFING

CHEMICAL NAME: Mixture
CAS NUMBER: None Assigned
EINECS: None Assigned
MOLECULAR FORMULA: No Data Available

Company Identification

CERTAINTEED CORPORATION
P.O. Box 860
Valley Forge, PA 19482
United States

WEB ADDRESS: www.certainteed.com

Phone Numbers

Technical Information: (610) 341-7000 - 9 AM – 5 PM (Eastern Time – USA)

*Emergency: (800) 424-9300 - EMERGENCY TELEPHONE: CHEMTREC
Emergency: (703) 527-3887 - OUTSIDE OF THE U.S. CHEMTREC*

PREPARATION DATE: 8/1/1994
LAST REVISION DATE: 1/4/2011

SECTION 2 - HAZARDS IDENTIFICATION


Emergency Overview

Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard) the products listed above are exempt as articles under stated normal conditions of use. In Canada, these products are considered manufactured articles under the Workplace Hazardous Materials Information System (WHMIS) and are exempt. Under normal conditions of use the products listed in this MSDS are not expected to pose a physical hazard or health risk to humans. These products do not contain any form of asbestos materials. The component exposure limits and other information in this document are provided for circumstances such as heating (above 250°F), burning, cutting, sanding and/or grinding when there is a potential for exposure to these components.

If heated, this product may cause temporary irritation to the upper respiratory system. Avoid inhalation as temporary irritation may occur. Mechanical irritation may occur. Wear appropriate personal protective equipment as described in Section 8.

GHS

Temporary respiratory irritation may occur. Avoid breathing vapors/fumes. Contaminated work clothing should not be allowed out of the workplace. Wash thoroughly after handling. Wear protective gloves and NIOSH approved respirator if exposed to dust or if material is heated.



NFPA/HMIS RATINGS:

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>Degree of Hazard</u>
NFPA RATING:	1	1	0	0 - Minimal (Insignificant)
				1 - Slight
				2 - Moderate
				3 - Serious (High)
				4 - Severe (Extreme)
HMIS RATING:	1*	1	0	* - Chronic Health Effect(s)

PHYSICAL FORM: Solid

COLOR: Black

ODOR: Mild petroleum odor

HAZARDS: Mild/Slight Irritant; Mechanical Irritant

ROUTE OF ENTRY: Inhalation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing lung conditions which may be aggravated if fumes/dusts are inhaled.

POTENTIAL HEALTH EFFECTS:

INHALATION:

ACUTE (IMMEDIATE): Temporary irritation of nose and throat may occur.

CHRONIC (DELAYED): This product may contain crystalline silica which is listed by IARC as a suspect carcinogen. Silicosis (pulmonary fibrosis or severe lung scarring) may occur if exposed to high levels or repeated encounters with dust. This product also contains petroleum asphalt. If heated, there is limited evidence that derivatives of asphalt fumes may cause carcinogenic effects in animals. There is inadequate evidence to support that asphalt fumes alone are carcinogenic to humans.

SKIN:

ACUTE (IMMEDIATE): Mechanical irritation of the skin may occur

CHRONIC (DELAYED): No data available

EYE:

ACUTE (IMMEDIATE): Mechanical irritation of the eyes may occur.

CHRONIC (DELAYED): No data available

INGESTION:

ACUTE (IMMEDIATE): Ingestion of this product is unlikely.

CHRONIC (DELAYED): No data available

MUTAGENIC EFFECTS: None

CARCINOGENIC EFFECTS: When used under normal conditions, this product is not considered a carcinogen.

This product contains petroleum asphalt. Asphalt fumes arise from hot asphalt. Asphalt fumes (CAS # 8052-42-4): In 1985/87, IARC (International Agency for Research on Cancer) concluded the following: (a) Bitumens are not classifiable as to their carcinogenicity to humans (Group 3). (b) Extracts of steam- and air-refined bitumens are possibly carcinogenic to humans (Group 2B). IARC found that evidence for carcinogenicity from animal studies was: inadequate for undiluted air-refined bitumens; limited for steam-refined and cracking residue bitumens; sufficient for extracts of steam-refined and air-refined bitumen. IARC found that human evidence for carcinogenicity of asphalt fumes was inadequate. Studies of roofers indicated an excess of cancers; however, IARC concluded that, since roofers may be exposed also to coal-tar pitches and other materials, "the excess cancer risk cannot be attributed specifically to bitumens." In 1994, a published review of 20 epidemiology studies of asphalt workers and roofers agreed with IARC, that current human evidence is inadequate for the carcinogenicity of asphalt fumes in humans. Trace amounts of polynuclear aromatic hydrocarbons (PAHs) may be present in some asphalts and can be released upon excessive heating, which results in thermal cracking of the asphalt compounds. Some of these PAHs have been identified as having the potential to induce carcinogenic and reproductive health effects.

This product contains crystalline silica. IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans (Monograph 68, 1997) concludes that there is sufficient evidence for the carcinogenicity of crystalline to humans, IARC (Group I). Crystalline Silica is classified as a Known Carcinogen according to the NTP.

REPRODUCTIVE EFFECTS: None

OTHER HEALTH EFFECTS: None

See Section 12 for Ecological Information

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Composition/Information on Ingredients

Product(s) Containing Component	Chemical Name	CAS	%(weight)	UN;EINICS	LD50/LC50	EU	OSHA PEL/TWA	ACGIH TLV/TWA	NIOSH REL
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:	Asphalt	8052-42-4	35% TO 55%	NA1999; 232-490-9	NDA	NDA	None	0.5 mg/m3	5 mg/m3
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:	Silica, crystalline - quartz	14808-60-7	15% TO 35%	238-878-4	NDA	NDA	10 mg/m3 (% SiO2 + 2)	0.025 mg/m3	0.05 mg/m3
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP	SBS Polymer	NDA	< 10	NDA	NDA	NDA	None	None	None

CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:									
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:	Colemanite	1318-33-8	< 10%	NDA	NDA	NDA	None	None	None
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:	Polyester	NDA	< 10%	NDA	NDA	NDA	None	None	None
Flintlastic® FR-P, Flintlastic® Premium FR-P, Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar contains:	ATH (Aluminum trihydrate)	NDA	< 20%	NDA	NDA	NDA	15 mg/m3	10 mg/m3	None
Flintlastic® FR-P CoolStar, Premium FRP CoolStar, Flintlastic GTS-FR CoolStar contains:	CoolStar Coating	NDA	0% TO 10%	NDA	NDA	NDA	None	None	None

Under United States Regulations (29 CFR 1900.1200 - Hazard Communication Standard) the products listed above are exempt as articles under stated normal conditions of use. In Canada, these products are considered manufactured articles under the Workplace Hazardous Materials Information System (WHMIS) and are exempt.

See Section 11 for Toxicological Information

SECTION 4 - FIRST AID MEASURES

INHALATION: Remove to fresh air, apply artificial respiration and/or oxygen if necessary and get medical attention.

SKIN: Removed contaminated clothing and wash exposed skin with soap and water. If irritation develops or persists, seek medical attention.

EYE: If foreign matter enters eyes, immediately flush with large amounts of water for at least 15 minutes or until irritation subsides.

INGESTION: Consult a physician if unusual reaction is noted. Product is not intended nor is it likely to be ingested or eaten.

See Section 2 for Potential Health Effects

SECTION 5 - FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Use water, foam, CO2 or dry chemical extinguishers to contain fire.

UNSUITABLE EXTINGUISHING MEDIA: No data available

FIREFIGHTING PROCEDURES: Fire fighters should avoid inhaling any combustion products.

Firefighters should wear full-face, self contained breathing apparatus and impervious protective clothing to avoid smoke inhalation and lack of oxygen.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Burning of this product will produce thick black smoke.

HAZARDOUS COMBUSTION PRODUCTS: If burned, the materials could release toxic fumes and smoke. Incomplete thermal oxidation can produce hydrogen cyanide, carbon monoxide, carbon dioxide, ammonia, and other low molecular weight hydrocarbons and oxides of sulfur, nitrogen, calcium and magnesium.

FLASH POINT: NA

FLASH POINT TEST TYPE: N/A

EXPLOSION LIMITS

UPPER: N/A LOWER: N/A

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Not applicable

EMERGENCY PROCEDURES: Not applicable

CONTAINMENT/CLEAN-UP MEASURES: Pick up large pieces. Vacuum dust. If sweeping is necessary, use a dust suppressant such as water. These procedures will help to minimize potential exposures. Scoop up material and put into a suitable container for disposal as a non-hazardous waste.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Do not breathe dusts or fumes generated from cutting or heating this material. Keep this product away from heat, sparks, or open flame. Use this product with adequate ventilation. Always wash work clothes separately from other clothing. Wash thoroughly after handling. Use personal protective equipment as described in Section 8.

STORAGE: Store indoors in a cool, dry, well-ventilated area. Do not handle or store near an open flame, heat or other sources of ignition.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

PPE:



RESPIRATORY PROTECTION: Respiratory protection is not normally required. Use a NIOSH approved/certified respiratory when the exposure limits are exceeded. Use a particulate filter respirator for particulate concentrations exceeding the Occupational Exposure Limit.

EYE/FACE PROTECTION: Safety glasses with side shields should be worn at a minimum.

SKIN/BODY PROTECTION: Leather or cotton gloves may be worn to prevent skin contact and irritation. Normal work clothing (long sleeved shirts and long pants) is recommended.

GENERAL INDUSTRIAL HYGIENE CONSIDERATIONS: Use good industrial hygiene practices in handling this material. Availability of eye wash fountains are recommended.

ENGINEERING MEASURES/CONTROLS: No special ventilation systems are required under normal conditions of use.

LISTED EXPOSURE LIMITS:

US State California

- Asphalt (8052-42-4): **PELs:** (5 mg/m³ PEL)
- Silica, crystalline - quartz (14808-60-7): **PELs:** (1.0 fiber/cc PEL; 0.5 mg/m³ PEL (respirable dust))

United States - ACGIH

- Asphalt (8052-42-4): **TWAs:** (0.5 mg/m³ TWA (inhalable fraction, as benzene-soluble aerosol)) | **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (as benzene soluble aerosol)) | **TLV Basis - Critical Effects:** (irritation (as benzene-soluble aerosol))
- Silica, crystalline - quartz (14808-60-7): **TLVs:** (0.025 mg/m³ TWA (respirable fraction); A2 - suspected human carcinogen; TLV

United States – OSHA

- Silica, crystalline - quartz (14808-60-7): **Mineral Dusts:** (((250)/(%SiO₂ + 5) mppcf TWA (respirable)); ((10 mg/m³)/(%SiO₂ + 2) mppcf TWA (respirable)); ((30 mg/m³)/(%SiO₂ + 2) mppcf TWA (Total Dust))) | **TWAs:** (0.1 mg/m³ TWA (respirable dust))

United States - NIOSH

- Asphalt (8052-42-4): **Ceiling Limits:** (5 mg/m³ Ceiling (15 min, fumes))
- Silica, crystalline - quartz (14808-60-7): **TWAs:** (0.05 mg/m³ TWA (respirable dust)) |

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Solid

APPEARANCE/DESCRIPTION: Asphalt roofing rolls.

COLOR: Black		ODOR: Mild Petroleum odor	
TASTE: No data available		ODOR THRESHOLD: NDA	
BOILING POINT:	NDA	VAPOR PRESSURE:	NDA
MELTING POINT/FREEZING POINT:	= NDA	VAPOR DENSITY:	NDA
SPECIFIC GRAVITY:	= NDA	EVAPORATION RATE:	NDA
DENSITY:	= NDA	VOC (WT.):	NDA
BULK DENSITY:	NDA	VOC (VOL.):	NDA
WATER SOLUBILITY:	Insoluble	VOLATILES (WT.):	NDA
SOLVENT SOLUBILITY:	NDA	VOLATILES (VOL.):	NDA
VISCOSITY:	@	FLASH POINT:	NDA
HALF-LIFE:	NDA	FLASH POINT TEST TYPE:	NDA
OCTANOL/WATER PARTITION COEFFICIENT:	NDA	UEL:	NDA
COEFFICIENT OF WATER/OIL DISTRIBUTION:	NDA	LEL:	NDA
BIOACCUMULATION FACTOR:	NDA	AUTOIGNITION:	NDA
PH:	NDA		

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

CONDITIONS TO AVOID: Keep away from heat, ignition sources and incompatible materials.

INCOMPATIBLE MATERIALS: This product will react with strong oxidizing agents, reducing agents, strong acids and alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS: Upon decomposition this product may emit hydrogen sulfide, formaldehyde, hydrogen cyanide, carbon dioxide, carbon monoxide and other low molecular weight hydrocarbons and oxides of sulfur, nitrogen, calcium and magnesium.

SECTION 11 - TOXICOLOGICAL INFORMATION

This product has not been tested as a separate entity. Therefore, the hazards must be evaluated on the basis of the individual ingredients, and those hazards must be assumed to be additive in the absence of complete information. The hazards described in this document have been evaluated on a threshold of 1.0% for all hazardous ingredients and 0.1% for all carcinogens.

ACUTE TOXICITY: Temporary irritation may be observed in the upper respiratory system, eyes, and skin. Inhalation of dusts/fumes from this product may cause a scratchy throat, congestion, and slight coughing.

CARCINOGENIC EFFECTS: When used under normal conditions, this product is not considered a carcinogen.

COMPONENT CARCINOGENICITY:

This product also contains petroleum asphalt. If heated, there is limited evidence that derivatives of asphalt fumes may cause carcinogenic effects in animals. There is inadequate evidence to support that asphalt fumes alone are carcinogenic to humans.

Asphalt Fumes (8052-42-4):

ACGIH:	A4 - Not Classifiable as a Human Carcinogen (as benzene soluble aerosol)
IARC:	Group 3 - Not Classifiable (IARC Supplement 7 [1987], Monograph 35 [1985])
NIOSH:	Potential occupational carcinogen.

This product contains crystalline silica. Crystalline silica is considered a carcinogen by IARC as well as NTP.

Crystalline Silica (14808-60-7):

NTP:	Reasonably Anticipated to be a human carcinogen (1992; <u>Sixth Annual Report on Carcinogens</u>)
IARC:	Group 2A – Limited Evidence of human carcinogenicity (IARC Monographs on Evaluation of Carcinogenic Risk of Chemicals to Humans [volume 42, 1987])
ACGIH:	A2 – Suspected human carcinogen
NIOSH:	Potential occupational carcinogen.

SECTION 12 - ECOLOGICAL INFORMATION

PRODUCT INFORMATION: This product has not been tested. Based on information related to all raw materials in the finished product it is not expected to harm ecosystems through its applied use.

ECOLOGICAL FATE: No information available for the product.

PERSISTANCE/DEGRADABILITY: No information available for the product.

SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: This product, as supplied, is not regulated as a hazardous waste by the U.S. Environmental Protection Agency (EPA) under Resource Conservation and Recovery Act (RCRA) regulations. Comply with state and local regulations for disposal. If you are unsure of the regulations, contact your local public health department, or the local office of the EPA.

DISPOSAL: Dispose of waste material according to local, state, federal, and provincial environmental regulations.

SECTION 14 - TRANSPORTATION INFORMATION

U.S. DOT 49 CFR 172.101:

SHIPPING NAME: Not Regulated for Transportation

TDG - CANADA - TRANSPORT OF DANGEROUS GOODS:

SHIPPING NAME: Not Classified as a Dangerous Good for Transport

SECTION 15 - REGULATORY INFORMATION

SARA HAZARD CLASSIFICATIONS:

Acute Health: Yes Chronic Health: Yes Fire: No Pressure: No Reactive: No

US FEDERAL:

GENERAL PRODUCT INFORMATION:

Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number. Components not identified on this non-confidential inventory are either exempt from listing (i.e. polymers, hydrates) or are listed on the confidential inventory as declared by the supplier.

TSCA (Toxic Substances Control Act) - Section 8(a) - Inventory Update Rule - Partially Exempt Substances

- Asphalt (8052-42-4) 35% to 55% Partially exempt chemical substance termed 'Petroleum Process Stream'
- Silica Crystalline Quartz (14808-60-7) 15% to 35%
- Colemanite (1318-33-8) < 10%

CERCLA:

This material does not contain chemicals required to be identified under CERCLA (40 CFR 302.4).

STATE REGULATIONS:

COMPONENT ANALYSIS - STATE:

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

Component	CAS #	CA	MA	MN	NJ	PA	RI
Petroleum Asphalt (fumes)	8052-42-4	Yes	Yes	Yes	Yes	Yes	Yes
Silica Crystalline Quartz	14808-60-7	Yes	Yes	Yes	Yes	Yes	Yes

CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT (PROPOSITION 65):
 The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING!

This product contains a chemical known to the state of California to cause cancer.

CANADIAN WHMIS INFORMATION:

GENERAL PRODUCT INFORMATION:

In Canada, these products are considered manufactured articles under the Workplace Hazardous Materials Information System (WHMIS) and are exempt.

COMPONENT ANALYSIS - WHMIS IDL:

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

- Silica, crystalline - quartz (14808-60-7) 15 to 35% 1 % (English Item 1406, French Item 1491)

ADDITIONAL REGULATORY INFORMATION:

GENERAL PRODUCT INFORMATION:

No information available for the product.

COMPONENT ANALYSIS – INVENTORY:

Component	CAS #	TSCA	DSL	EINECS
Asphalt	8052-42-4	Yes	Yes	Yes
Silica Crystalline Quartz	14808-60-7	Yes	Yes	Yes
Colemanite	1318-33-8	Yes	Yes	Yes
ATH (Alumina trihydrate)	NDA	No	No	No
Polyester	NDA	No	No	No
SBS Polymer	NDA	No	No	No
Aluminum Hydroxide (CoolStar Coating)	21645-51-2	Yes	Yes	Yes
Titanium Dioxide (CoolStar Coating)	13463-67-7	Yes	Yes	Yes

SECTION 16 - OTHER INFORMATION

PREPARATION DATE: 8/1/1994

LAST REVISION DATE: 1/4/2011

DISCLAIMER: Reasonable care has been taken in the preparation of this information, but the supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption

the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

For reference to the acronyms/definitions used in this MSDS please visit www.certainteed.com.

MSDS HISTORY:

MSDS REVISION SUMMARY:

Date	MSDS No.	Changes
1/4/2011	CT-10122	<ul style="list-style-type: none"> • Added material names: Flintlastic GTS-FR, Flintlastic GTS-FR CoolStar • Changed percent ranges in Section 3
1/1/2009	CT-10122	<ul style="list-style-type: none"> • MSDS format change (new ANSI Z400.2004 & GHS v .2007 format) • Section 2 – GHS (v. 2007) Classifications

This is the end of MSDS # CT-10122