

Safety Data Sheet

Firestone Building Products Company

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • Lap Sealant HS

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company
200 4th Avenue S
Nashville, TN 37201-2208
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Skin Irritation 2 - H315
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects - H336
Carcinogenicity 1A - H350

DSD/DPD • Irritant (Xi)
Carcinogenic Substances - Category 1
R37/38, R45, R67

2.2 Label Elements

CLP

DANGER

Hazard statements • H315 - Causes skin irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H350 - May cause cancer.

Precautionary statements

- Prevention** • P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P261 - Avoid breathing dust.
 P264 - Wash thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.
 P280 - Wear protective gloves .
 P281 - Use personal protective equipment as required.
- Response** • P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
 P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
 P321 - Specific treatment, see supplemental first aid information.
 P362 - Take off contaminated clothing and wash before reuse.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal** • P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

- Risk phrases** • R37/38 - Irritating to respiratory system and skin.
 R45 - May cause cancer.
 R67 - Vapours may cause drowsiness and dizziness.

- Safety phrases** • S53 - Avoid exposure - obtain special instructions before use.

2.3 Other Hazards

- CLP** • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.
- DSD/DPD** • According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012**
- Skin Irritation 2
 - Eye Irritation 2
 - Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
 - Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
 - Carcinogenicity 1A

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • Causes skin irritation
 Causes serious eye irritation
 May cause respiratory irritation
 May cause drowsiness or dizziness
 May cause cancer.

Precautionary statements

- Prevention** • Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.
 Avoid breathing dust.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.

- Response** • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 If on skin: Wash with plenty of water .
 Specific treatment, see supplemental first aid information.
 Take off contaminated clothing and wash before reuse.
 If skin irritation occurs: Get medical advice/attention.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 IF exposed or concerned: Get medical advice/attention.

- Storage/Disposal** • Store in a well-ventilated place. Keep container tightly closed.
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

- WHMIS
- Other Toxic Effects - D2A
Other Toxic Effects - D2B

2.2 Label elements

WHMIS



- WHMIS
- Other Toxic Effects - D2A
Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
	CAS:1317-65-3	50%		EU DSD/DPD: Xn, R48/20 EU CLP: STOT RE 2 (Lung, Inhl),	

Limestone	EC Number: 215-279-6	TO 100%	NDA	H373 OSHA HCS 2012: STOT RE 2 (Lung, Inhl)	NDA
Light aliphatic solvent naphtha	CAS: 64742-89-8 EC Number: 265-192-2 EU Index: 649-267-00-0	5% TO 20%	NDA	EU DSD/DPD: Annex VI, Table 3.2: Xn R65, R67; Xi, R38; N; R51/53 EU CLP: Annex VI, Table 3.1: Skin Irrit. 2, H315; Asp Tox. 1, H304; STOT SE 3: Narc., H336; Aquatic Chronic 2, H411; Flam. Liq. 3, H226 OSHA HCS 2012: Flam. Liq. 2; Eye Irrit. 2; Skin Irrit. 2; Asp. Tox. 1; STOT SE: Narc. & Resp. Irrit.	NDA
Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	CAS: 64742-52-5 EC Number: 265-155-0 EU Index: 649-465-00-7	2.5% TO 10%	Ingestion/Oral-Rat LD50 • >5000 mg/kg Skin-Rabbit LD50 • >2000 mg/kg	EU DSD/DPD: Annex VI, Table 3.2: Carc. Cat. 2, R45 EU CLP: Annex VI, Table 3.1: Carc. 1B, H350 OSHA HCS 2012: Skin Irrit. 2	Contains less than 3% DMSO. Carcinogen classification not applicable.
Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl-, salt with bentonite	CAS: 68953-58-2 EC Number: 273-219-4	<= 2.5%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA
Carbon Black	CAS: 1333-86-4 EC Number: 215-609-9	<= 2.5%	Ingestion/Oral-Rat LD50 • >15400 mg/kg Skin-Rabbit LD50 • >3 g/kg	EU DSD/DPD: T, R48/23; Carc. Cat. 3, R40 EU CLP: Carc. 2, H351; STOT RE 1, H372 OSHA HCS 2012: Carc. 2; STOT RE 1 (Lungs, Inhl); Comb. Dust	NDA
Stearic acid	CAS: 57-11-4 EC Number: 200-313-4	<= 1%	Skin-Rabbit LD50 • >5 g/kg Ingestion/Oral-Rat LD50 • 4600 mg/kg	EU DSD/DPD: Xi, R38 EU CLP: Skin Irrit. 2, H315 OSHA HCS 2012: Skin Irrit. 2	NDA
Calcium oxide	CAS: 1305-78-8 EC Number: 215-138-9	<= 1%	NDA	EU DSD/DPD: Xi, R41; C; R34 EU CLP: Skin Corr. 1C, H314; Eye Dam. 1, H318 OSHA HCS 2012: Skin Corr. 1C; Eye Dam. 1	NDA
Quartz	CAS: 14808-60-7 EC Number: 238-878-4	<= 0.5%	NDA	EU DSD/DPD: Carc. Cat. 1, T, R45, R48/23 EU CLP: Carc. 1A, H350i; STOT RE 1, H372 (Lungs, Inhl) OSHA HCS 2012: Carc. 1A; STOT RE 1 (Lungs, Inhl)	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention if artificial oxygen is administered.

- Skin**
- IF ON SKIN: Wash with plenty of soap and water. Remove and isolate contaminated clothing. If skin irritation occurs: Get medical advice/attention.
- Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.
- Ingestion**
- Do NOT induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • CO₂, extinguishing powder or water spray. Fight larger fires with water spray.

Unsuitable Extinguishing Media • No data available.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Containers may explode when heated.

Hazardous Combustion Products • No data available

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear positive pressure self-contained breathing apparatus (SCBA).
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions • Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures • Stay upwind. Keep out of low areas. Keep unauthorized personnel away.

6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures • Stop leak if you can do it without risk.
Carefully shovel or sweep up spilled material and place in suitable container.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Use only with adequate ventilation. Wear appropriate personal protective equipment. Avoid breathing dust. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Keep container closed when not in use. Store in a cool location away from direct heat. Keep away from incompatible materials.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	ACGIH	Canada Alberta	Canada British Columbia	Canada Manitoba	Canada New Brunswick
Quartz (14808-60-7)	TWAs	0.025 mg/m ³ TWA (respirable fraction)	0.025 mg/m ³ TWA (respirable particulate)	0.025 mg/m ³ TWA (respirable)	0.025 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable fraction)
Calcium oxide (1305-78-8)	TWAs	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA
Carbon Black (1333-86-4)	TWAs	3 mg/m ³ TWA (inhalable fraction)	3.5 mg/m ³ TWA	3 mg/m ³ TWA (inhalable)	3 mg/m ³ TWA (inhalable fraction)	3.5 mg/m ³ TWA
Limestone (1317-65-3)	TWAs	Not established	10 mg/m ³ TWA	10 mg/m ³ TWA (total dust); 3 mg/m ³ TWA (respirable fraction)	Not established	10 mg/m ³ TWA (particulate matter containing no Asbestos and <1% Crystalline silica)
	STELs	Not established	Not established	20 mg/m ³ STEL (total dust)	Not established	Not established
Exposure Limits/Guidelines (Con't.)						
	Result	Canada Northwest Territories	Canada Nova Scotia	Canada Nunavut	Canada Ontario	Canada Quebec
Quartz (14808-60-7)	TWAs	0.1 mg/m ³ TWA (respirable mass); 0.3 mg/m ³ TWA (total mass)	0.025 mg/m ³ TWA (respirable fraction)	0.1 mg/m ³ TWA (respirable mass); 0.3 mg/m ³ TWA (total mass)	0.10 mg/m ³ TWA (designated substances regulation, respirable, listed under Silica, crystalline)	0.1 mg/m ³ TWAEV (respirable dust)
Calcium oxide (1305-78-8)	STELs	4 mg/m ³ STEL	Not established	4 mg/m ³ STEL	Not established	Not established
	TWAs	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWAEV
Carbon Black (1333-86-4)	STELs	7 mg/m ³ STEL	Not established	7 mg/m ³ STEL	Not established	Not established
	TWAs	3.5 mg/m ³ TWA	3 mg/m ³ TWA (inhalable fraction)	3.5 mg/m ³ TWA	3 mg/m ³ TWA (inhalable)	3.5 mg/m ³ TWAEV
Limestone (1317-65-3)	TWAs	5 mg/m ³ TWA (respirable mass); 10 mg/m ³ TWA (total mass)	Not established	5 mg/m ³ TWA (respirable mass); 10 mg/m ³ TWA (total mass)	Not established	10 mg/m ³ TWAEV (Limestone, containing no Asbestos and <1% Crystalline silica, total dust)

Exposure Limits/Guidelines (Con't.)

	Result	Canada Saskatchewan	Canada Yukon	NIOSH	OSHA
Quartz (14808-60-7)	TWAs	0.05 mg/m ³ TWA (respirable fraction, listed under Silica - crystalline)	300 particle/mL TWA (listed under Silica)	0.05 mg/m ³ TWA (respirable dust)	Not established
Calcium oxide (1305-78-8)	TWAs	2 mg/m ³ TWA	2 mg/m ³ TWA	2 mg/m ³ TWA	5 mg/m ³ TWA
	STELs	Not established	4 mg/m ³ STEL	Not established	Not established
Carbon Black (1333-86-4)	TWAs	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA	3.5 mg/m ³ TWA; 0.1 mg/m ³ TWA (Carbon black in presence of Polycyclic aromatic hydrocarbons, as PAH)	3.5 mg/m ³ TWA
	STELs	Not established	7 mg/m ³ STEL	Not established	Not established
Limestone (1317-65-3)	TWAs	10 mg/m ³ TWA	30 mppcf TWA; 10 mg/m ³ TWA	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)
	STELs	Not established	20 mg/m ³ STEL	Not established	Not established

Exposure Control Notations

Canada Ontario

- Quartz (14808-60-7): **Designated Substances:** (0.10 mg/m³ TWA (respirable fraction, listed under Silica, crystalline))

Canada Quebec

- Quartz (14808-60-7): **Carcinogens:** (C2 carcinogen - effect suspected in humans)

ACGIH

- Carbon Black (1333-86-4): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Quartz (14808-60-7): **Carcinogens:** (A2 - Suspected Human Carcinogen)

Exposure Limits Supplemental

OSHA

- Quartz (14808-60-7): **Mineral Dusts:** ((30)/(%SiO₂ + 2) mg/m³ TWA, total dust; (250)/(%SiO₂ + 5) mppcf TWA, respirable fraction; (10)/(%SiO₂ + 2) mg/m³ TWA, respirable fraction)

ACGIH

- Carbon Black (1333-86-4): **TLV Basis - Critical Effects:** (bronchitis)
- Calcium oxide (1305-78-8): **TLV Basis - Critical Effects:** (upper respiratory tract irritation)
- Quartz (14808-60-7): **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)

8.2 Exposure controls

Engineering Measures/Controls

- This material is designed to be used outdoors, in roofing applications. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear protective eyewear (goggles, face shield, or safety glasses).

Skin/Body

- Wear appropriate gloves.

Environmental Exposure Controls

- In case of spills, keep product clear of sewers, waterways or land areas. Dispose of waste product in accordance with national and local laws and regulations.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

TLV = Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)

NIOSH = National Institute of Occupational Safety and Health
 OSHA = Occupational Safety and Health Administration
 STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

TWAEV = Time-Weighted Average Exposure Value

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid (Paste)	Appearance/Description	Black paste with a petrol-like odor.
Color	Black	Odor	Petrol-like
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Bulk Density	1.35 g/cm ³
Water Solubility	Insoluble	Viscosity	> 20.5 Centistoke (cSt, cS) or mm ² /sec
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	45 mmHg (torr) @ 20 °C(68 °F)	Vapor Density	3.8 Air=1
Evaporation Rate	9.2 n-Butyl Acetate = 1	VOC (Vol.)	< 250 g/L
Flammability			
Flash Point	83 °C(181.4 °F)	UEL	6.7 %
LEL	0.9 %	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat.

10.5 Incompatible materials

- Oxidizing agents.

10.6 Hazardous decomposition products

- None known.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

		Components
Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined) (2.5% TO 10%)	64742-52-5	Irritation: Skin-Rabbit • 500 mg • Severe irritation
Carbon Black (<= 2.5%)	1333-86-4	Acute Toxicity: Ingestion/Oral-Rat LD50 • >15400 mg/kg; Behavioral:Somnolence (general depressed activity); Skin-Rabbit LD50 • >3 g/kg; Mutagen: DNA adduct • Inhalation-Mouse • 6200 µg/m ³ 16 Hour(s) 12 Week(s)-Intermittent; DNA damage • Inhalation-Rat • 50 g/L 13 Week(s); DNA damage • Inhalation-Rat • 50 µg/L 13 Week(s)-Intermittent; Tumorigen / Carcinogen: Inhalation-Rat TLo • 11600 µg/m ³ 18 Hour(s) 2 Year(s)-Intermittent; Tumorigenic:Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors
Stearic acid (<= 1%)	57-11-4	Acute Toxicity: Ingestion/Oral-Rat LD50 • 4600 mg/kg; Skin-Rabbit LD50 • >5 g/kg; Irritation: Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation; Mutagen: DNA damage • Unreported Route-Human • Liver (Somatic cell) • 10 mg/L 20 Hour(s); Tumorigen / Carcinogen: Implant-Mouse TDLo • 400 mg/kg; Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Kidney, Ureter, and Bladder:Tumors
Quartz (<= 0.5%)	14808-60-7	Acute Toxicity: Inhalation-Human TLo • 16 mppcf 8 Hour(s) 17.9 Year(s)-Intermittent; Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Cough; Lungs, Thorax, or Respiration:Dyspnea; Inhalation-Rat TLo • 200 mg/kg; Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis); Lungs, Thorax, or Respiration:Other changes; Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Fe; Intratracheal-Mouse TDLo • 80 mg/kg; Lungs, Thorax, or Respiration:Fibrosis (interstitial); Immunological Including Allergic:Increase in cellular immune response; Biochemical:Metabolism (intermediary):Effect on inflammation or mediation of inflammation; Multi-dose Toxicity: Inhalation-Hamster TLo • 3 mg/m ³ 6 Hour(s) 78 Week(s)-Intermittent; Lungs, Thorax, or Respiration:Fibrosis (interstitial); Lungs, Thorax, or Respiration:Changes in lung weight; Inhalation-Rat TLo • 6.2 mg/m ³ 6 Hour(s) 6 Week(s)-Intermittent; Lungs, Thorax, or Respiration:Other changes; Blood:Changes in spleen; Immunological Including Allergic:Increase in cellular immune response; Mutagen: Micronucleus test • Unreported Route-Hamster • Lung (Somatic cell) • 160 µg/cm ³ ; DNA damage • Unreported Route-Human • Other Cell Type • 120 mg/L 24 Hour(s); Micronucleus test • Unreported Route-Human • Lung (Somatic cell) • 40 µg/cm ³ ; Tumorigen / Carcinogen: Inhalation-Rat TLo • 50 mg/m ³ 6 Hour(s) 71 Week(s)-Intermittent; Tumorigenic:Carcinogenic by RTECS criteria; Liver:Tumors

GHS Properties	Classification
Acute toxicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	EU/CLP • Skin Irritation 2 OSHA HCS 2012 • Skin Irritation 2
Serious eye damage/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Eye Irritation 2
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Carcinogenicity	EU/CLP • Carcinogenicity 1A OSHA HCS 2012 • Carcinogenicity 1A
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-SE	EU/CLP • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

Potential Health Effects

Inhalation

Acute (Immediate)

- May cause respiratory irritation. May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.

Chronic (Delayed)

- No data available.

Skin

Acute (Immediate)

- Causes skin irritation.

Chronic (Delayed)

- No data available.

Eye

Acute (Immediate)

- Causes serious eye irritation.

Chronic (Delayed)

- No data available.

Ingestion

Acute (Immediate)

- Ingestion of this product unlikely.

Chronic (Delayed)

- No data available.

Carcinogenic Effects

- Crystalline Silica (Quartz, Cristobalite) is listed by IARC and NTP. Long term exposure to high levels of silica dust, which can occur only when sanding or abrading the dry film, may cause lung damage (silicosis) and possibly cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Quartz	14808-60-7	Group 1-Carcinogenic	Known Human Carcinogen
Carbon Black	1333-86-4	Group 2B-Possible Carcinogen	Not Listed

Key to abbreviations

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted by the manufacturer.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications

- Acute, Chronic

State Right To Know				
Component	CAS	MA	NJ	PA
Calcium oxide	1305-78-8	Yes	Yes	Yes
Carbon Black	1333-86-4	Yes	Yes	Yes
Hydrotreated heavy naphthenic				

distillates (petroleum) (Highly Refined)	64742-52-5	No	No	No
Light aliphatic solvent naphtha	64742-89-8	No	No	No
Limestone	1317-65-3	Yes	Yes	Yes
Quartz	14808-60-7	Yes	Yes	Yes
Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl -, salt with bentonite	68953-58-2	No	No	No
Stearic acid	57-11-4	No	No	No

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Calcium oxide	1305-78-8	Yes	No	Yes	No	Yes
Carbon Black	1333-86-4	Yes	No	Yes	Yes	Yes
Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Yes	No	Yes	No	Yes
Light aliphatic solvent naphtha	64742-89-8	Yes	No	Yes	No	Yes
Limestone	1317-65-3	No	Yes	Yes	No	Yes
Quartz	14808-60-7	Yes	No	Yes	No	Yes
Quaternary ammonium compounds, bis (hydrogenated tallow alkyl)dimethyl -, salt with bentonite	68953-58-2	Yes	No	Yes	No	Yes
Stearic acid	57-11-4	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Stearic acid	57-11-4	Uncontrolled product according to WHMIS classification criteria
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	E D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Carbon Black, non-respirable on Health Canada's WHMIS Division website.)
• Carbon Black	1333-86-4	
• Limestone	1317-65-3	D2A

• Light aliphatic solvent naphtha	64742-89-8	B2
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	D2A (In certain cases, this classification does not apply. For more information, consult the section Substance Specific Issues - Silica, crystalline, encapsulated on Health Canada's WHMIS Division website.)

Canada - WHMIS - Ingredient Disclosure List

• Stearic acid	57-11-4	1 %
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	1 %
• Carbon Black	1333-86-4	1 %
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	1 %

Environment**Canada - CEPA - Priority Substances List**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

Denmark**Environment****Denmark - List of Undesirable Substances - Product Groups/Function**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

Europe**Other****EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Carc.Cat.2; R45
• Calcium oxide	1305-78-8	Not Listed

• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Carc.Cat.2; R45 Muta.Cat.2; R46 Xn; R65
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	T R:45 S:53-45
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	T R:45-46-65 S:53-45
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	L
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	P
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	S:53-45
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	S:53-45
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

United States**Labor****U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

Environment**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	carcinogen, initial date 2/21/03 (airborne, unbound particles of respirable size)
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed

• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	carcinogen, initial date 10/1/88 (airborne particles of respirable size)
U.S. - California - Proposition 65 - Developmental Toxicity		
• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed

• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

United States - Pennsylvania

Labor

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances

• Stearic acid	57-11-4	Not Listed
• Hydrotreated heavy naphthenic distillates (petroleum) (Highly Refined)	64742-52-5	Not Listed
• Calcium oxide	1305-78-8	Not Listed
• Carbon Black	1333-86-4	Not Listed
• Limestone	1317-65-3	Not Listed
• Light aliphatic solvent naphtha	64742-89-8	Not Listed
• Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl-, salt with bentonite	68953-58-2	Not Listed
• Quartz	14808-60-7	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H226 - Flammable liquid and vapour
- H304 - May be fatal if swallowed and enters airways
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage
- H350i - May cause cancer by inhalation.
- H351 - Suspected of causing cancer.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H411 - Toxic to aquatic life with long lasting effects
- R34 - Causes burns.
- R38 - Irritating to skin.
- R40 - Limited evidence of a carcinogenic effect.
- R41 - Risk of serious damage to eyes.
- R48/20 - Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 - Harmful: may cause lung damage if swallowed.

Revision Date

- 19/January/2018

Preparation Date

- 17/July/2008

Other Information

- Changes to this revision: Updated mailing address.

Disclaimer/Statement of Liability

- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No Data Available