

## Material Safety Data Sheet

### Section 1: PRODUCT AND COMPANY INFORMATION

**Product Name(s):** C-29 TCF

**Product Identifiers:** C-29 Trowel Grade Crack Filler, C-29 TCF.

**Manufacturer:**  
Coco Paving Inc.  
949 Wilson Avenue  
Toronto, Ontario M3K 1G2

**Information Telephone Number:**  
(416) 633-9670

**Emergency Telephone Number:**  
CANUTEC (613) 996-6666

**Product Use:** C-29 TCF is a trowel grade crack filler used in asphalt pavement applications.

### Section 2: COMPOSITION/INFORMATION ON INGREDIENTS




Component	Percent (By Weight)	CAS Number	OSHA PEL – TWA (mg/m <sup>3</sup> )	ACGIH TLV- TWA (mg/m <sup>3</sup> )	LD <sub>50</sub> (rat, oral)	LC <sub>50</sub> (rat, inhalation)
Asphalt Cement (as Fume)	30-40	8052-42-4	NA	0.5	NA	NA
Stoddard Solvent	20-30	8052-41-3	500 ppm	100 ppm	NA	NA
Limestone*	25-35	1317-65-3	5 (R), 15 (T)	NA	6.45 g/kg	NA
Attapulgite	3-7	12174-11-7	NA	NA	NA	NA
Cellulose	2-6	9004-34-6	5 (R), 15 (T)	10 (T)	> 5.8 g/kg	>5.8 g/m <sup>3</sup> /4H
Crystalline Silica (as Quartz)	< 1	14808-60-7	[(10) / (%SiO <sub>2</sub> +2)] (R); [(30) / (%SiO <sub>2</sub> +2)] (T)	0.025 (R)	NA	NA

Note: Exposure limits for components noted with an \* contain no asbestos and <1% crystalline silica.

Asphalt is produced from high temperature vacuum distillation of crude oil. Composition varies depending on source of crude and specifications of final product. It can contain trace amounts of sulfur, nitrogen and oxygen compounds as well as trace amounts of heavy metals. Different asphalt grades may contain an anti-stripping additive.

Asphalt products can contain hydrogen sulfide, because it is naturally occurring in crude oil from which asphalt is derived. Hydrogen sulfide can also be present as a by-product of asphalt processing.

### Section 3: HAZARD IDENTIFICATION

<b>WARNING</b>	
	<p style="text-align: center;">Flammable Liquid Hot product can cause burns.</p> <p>Irritant: Causes eye, skin and inhalation irritation. Toxic - Harmful by inhalation. Hot Product can release Hydrogen Sulfide gas. Product contains crystalline silica.</p> <p>Use proper engineering controls, work practices, and personal protective equipment.</p> <p style="text-align: center;">Read MSDS for details.</p>
 Eye Protection	 Gloves

**Section 3: HAZARD IDENTIFICATION (continued)**

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<b>Emergency Overview:</b>	C-29 TCF is a dark brown to black colored solid or semi-solid material that has a petroleum odor. Hot product will cause severe thermal burns. If burned by hot product, cool affected area immediately with cool water. Seek medical attention. When heated, this product may release toxic hydrogen sulfide (H <sub>2</sub> S). Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis.
<b>Potential Health Effects:</b>	Risk of injury depends on duration and level of exposure.
<b>Eye Contact:</b>	Hot product will cause severe thermal burns. Eye contact with C-29 TCF or fumes can cause moderate eye irritation, redness, and itching. Eye exposures require immediate first aid to prevent damage to the eye.
<b>Skin Contact:</b>	Direct contact with hot C-29 TCF will cause severe thermal burns. Repeated or prolonged contact to C-29 TCF may cause redness, dry skin, discomfort, irritation, sensitivity and dermatitis.
<b>Inhalation (acute):</b>	<p>Hot C-29 TCF releases irritating fumes such as smoke, carbon dioxide, carbon monoxide, and unburned hydrocarbons. Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures. Exposure to fumes may cause irritation of the nose and throat, and symptoms such as headache, dizziness, nausea, loss of coordination, and drowsiness. Cutting, crushing or grinding hardened C-29 TCF will release dust. Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.</p> <p>Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures. Hydrogen sulfide can cause respiratory paralysis and death, depending on concentrations and duration of exposure. Do not rely on ability to smell vapors, since odor fatigue rapidly occurs. Effects of overexposure include irritation of the nose and throat, nausea, vomiting and signs of nervous system depression.</p>
<b>Inhalation (chronic):</b>	Risk of injury depends on duration and level of exposure.
<b><u>Silicosis:</u></b>	This product contains trace amounts of crystalline silica. Under normal use and application C-29 TCF does not release crystalline silica. However, cutting, crushing or grinding hardened C-29 TCF or other crystalline silica-bearing materials will release respirable crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease.
<b>Ingestion:</b>	Do not ingest C-29 TCF. Hot product will cause thermal burns. Ingestion may result in nausea, vomiting, diarrhea and restlessness.
<b>Notes:</b>	Asphalt emulsion is not listed as a carcinogen by IARC or NTP, some components of the product are. The International Agency for Research on Cancer (IARC) has concluded that occupational exposures to oxidized asphalt and their emissions during roofing operations are “probably carcinogenic to Humans (Group 2A). IARC concluded that occupational exposures to hard asphalt and their emissions during mastic asphalt work are “possibly carcinogenic to humans” (Group 2B). IARC concluded that occupational exposures to straight-run asphalt and their emissions during paving operations are “possibly carcinogenic to humans” (Group 2B). , C-29 TCF contains trace amounts of crystalline silica that is classified by IARC and

NTP as known human carcinogen.

**Medical Conditions**

**Aggravated by Exposure:** Individuals with preexisting skin conditions can be aggravated by exposure.

**Section 4: FIRST AID MEASURES**

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<b>Eye Contact:</b>	For contact with product, flush with large amounts of cool water for at least 15 minutes, including under lids. Seek medical attention for burns and severe irritation.
<b>Skin Contact:</b>	Wash with cool water and a pH neutral soap or a mild skin detergent. Do not use solvents or thinners to remove product from skin. Seek medical attention for burns, rash, irritation, and dermatitis.  For contact with hot product, immerse or flush skin with cold water for at least 15 minutes. Seek medical attention for burns.
<b>Inhalation:</b>	Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
<b>Ingestion:</b>	Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

**Section 5: FIREFIGHTING MEASURES**

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<b>Flashpoint &amp; Method:</b>	> 38°C Cleveland Open Cup.	<b>Firefighting Equipment:</b>	A SCBA is recommended to limit exposures to combustion products when fighting any fire.
<b>General Hazard:</b>	Combustible semi-solid. Avoid breathing fumes.		
<b>Upper/Lower Flammable Limit:</b>	0.7 LEL, 6 UEL.		
<b>Auto-Ignition Temperature:</b>	> 226°C	<b>Combustion Products:</b>	Vapors form a flammable mixture with air. Toxic gases produced in fire, such as CO, CO <sub>2</sub> , and H <sub>2</sub> S.
<b>Explosion Data:</b>	Sensitive to static charge		
<b>Extinguishing Media:</b>	Treat as a highly flammable fuel oil fire. Use appropriate extinguishing media for the size of the fire. Water spray and foam can cause frothing. Use of water on product above 100°C (212°F) can cause product to expand with explosive force.		
<b>Specific Hazards:</b>	If tank, rail car or tanker truck is involved in fire, isolate for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. Shut off fuel to fire if possible to do so without hazard. Cool containing vessels with water spray in order to prevent pressure buildup, autoignition or explosion. Do not flushing spilled product into sewers, streams or other bodies of water.		

**Section 6: ACCIDENTAL RELEASE MEASURES**

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<b>General:</b>	Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. Remove all potential ignition sources. Isolate the area of the spill and restrict access. For small spills, soak up released C-29 TCF with inert absorbent material, remove with shovels and place spilled material into a container. Contain large spills with inert materials. Avoid using combustible absorbers such as sawdust. Transfer solid material to suitable containers for recovery or disposal. Do not allow spills and cleaning runoff to enter drains, sewers, groundwater, drainage ditches or surface waters. Wear appropriate protective equipment as described in Section 8.
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**Waste Disposal Method:** Dispose of C-29 TCF according to Federal, State, Provincial and Local regulations.

## **Section 7: HANDLING AND STORAGE**

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- General:** Handle with care and use appropriate control measures. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other source of ignition. Do not cut, drill, grind or weld on empty containers since they may contain flammable residues.
- Significant concentrations of hydrogen sulfide (H<sub>2</sub>S) gas can be generated and accumulate in storage tanks and bulk transport compartments which may require additional precautions and procedures during loading and unloading. When opening covers and outlet caps on storage tanks, stay upwind and vent open hatches before unloading. Keep heating coils and flues in storage tanks, trucks and kettles covered with product. Do not overheat.
- Usage:** Avoid contact with skin, eyes and clothing. Use additional precautions when handling hot material. Maintain employee exposure levels below established regulatory limits. Do not allow hot product to contact skin. Ensure adequate ventilation. Use all appropriate engineering controls and Personal Protective Equipment (PPE) described in Section 8 below.
- Storage Temperature:** Store away from all ignition sources and open flames. Storage above 55°C or 122°F may affect product quality.
- Storage:** Store in a well-ventilated area. Do not expose to open flames, strong oxidizers or other source of ignition. Consult appropriate Federal, State, Provincial and Local authorities before reusing, recycling or disposing of empty containers or waste residues of this product.

## **Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

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- Engineering Controls:** Use local exhaust or general dilution ventilation when using at elevated temperatures or during activities that generate vapors or mists, to maintain levels below exposure limits. Ensure that an emergency eye wash station and safety shower is located near the work area.
- Personal Protective Equipment (PPE):**
- Respiratory Protection: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to vapors above exposure limits.
  - Eye Protection: Wear CSA/ANSI approved safety goggles or face shield when handling C-29 TCF to prevent contact with eyes.
  - Skin Protection: Wear chemical resistant gloves to prevent skin contact and insulated gloves when handling hot product. Do not rely on barrier creams, in place of impervious gloves. Additional protection may be necessary to prevent skin contact including use of apron, arm covers, face shield or boots. Remove and launder clothing that is soiled with C-29 TCF. Thoroughly wash hands and other exposed skin after exposure to C-29 TCF.

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**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

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<b>Physical State:</b>	Paste or Semi-solid.	<b>Evaporation Rate:</b>	Slower than n-BuAc.
<b>Appearance:</b>	Black or brown.	<b>pH (in water):</b>	NA.
<b>Odor:</b>	Slight petroleum odor.	<b>Boiling Point:</b>	176.7°C or 350°F.
<b>Vapor Pressure:</b>	2.6 mm Hg.	<b>Freezing Point:</b>	NA.
<b>Vapor Density:</b>	> 3.0.	<b>Viscosity:</b>	NA.
<b>Specific Gravity:</b>	1.1 g/ml.	<b>Solubility in Water:</b>	Insoluble.

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**Section 10: STABILITY AND REACTIVITY**

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<b>Stability:</b>	Stable. Avoid contact with incompatible materials, excessive heat, sources of ignition, direct sunlight and open flame.
<b>Incompatibility:</b>	C-29 TCF is incompatible with strong acids or bases, and oxidizing agents such as nitrates, chlorates and peroxides. Do not allow hot product to contact water.
<b>Hazardous Polymerization:</b>	None.
<b>Hazardous Decomposition:</b>	When heated may liberate carbon monoxide, carbon dioxide, hydrogen sulfide, trace oxides of sulfur and nitrogen, and various hydrocarbons.

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**Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION**

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For questions regarding toxicological and ecological information refer to contact information in Section 1.

**Section 13: DISPOSAL CONSIDERATIONS**

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations.

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**Section 14: TRANSPORT INFORMATION**

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This product is classified as a Hazardous Material under U.S. DOT and a Dangerous Good under Canadian TDG regulations.

**Section 15: REGULATORY INFORMATION**

<b>OSHA/MSHA Hazard Communication:</b>	This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.
<b>CERCLA/SUPERFUND:</b>	This product is not listed as a CERCLA hazardous substance.
<b>EPCRA SARA Title III:</b>	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered to be an acute health hazard (irritation).
<b>EPRCA SARA Section 313:</b>	This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
<b>RCRA:</b>	If discarded in its purchased form, this product would be characterized as a D001 waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**Section 15: REGULATORY INFORMATION**


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- TSCA:** This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
- California Proposition 65:** Crystalline silica (airborne particulates of respirable size) is known by the State of California to cause cancer.
- WHMIS/DSL:** This product is classified as D2A, D2B and B3 and is subject to WHMIS requirements.


**Section 16: OTHER INFORMATION**


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**Abbreviations:**

>	Greater than	MSHA	Mine Safety and Health Administration
ACGIH	American Conference of Governmental Industrial Hygienists	NA	Not Applicable
		NFPA	National Fire Protection Association
ANSI	American National Standards Institute	NIOSH	National Institute for Occupational Safety and Health
CAS No	Chemical Abstract Service number		
CBI	Confidential Business Information	NTP	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	OSHA	Occupational Safety and Health Administration
		PEL	Permissible Exposure Limit
CFR	Code for Federal Regulations	pH	Negative log of hydrogen ion
CL	Ceiling Limit	PPE	Personal Protective Equipment
CSA	Canadian Standards Association	R	Respirable Particulate
DOT	U.S. Department of Transportation	RCRA	Resource Conservation and Recovery Act
EST	Eastern Standard Time	SARA	Superfund Amendments and Reauthorization Act
HEPA	High-Efficiency Particulate Air		
HMIRC	Hazardous Materials Information Review Commission	SCBA	Self-Contained Breathing Apparatus
		T	Total Particulate
HMIS	Hazardous Materials Identification System	TDG	Transportation of Dangerous Goods
		TLV	Threshold Limit Value
IARC	International Agency for Research on Cancer	TWA	Time Weighted Average (8 hour)
LC <sub>50</sub>	Lethal Concentration	WHMIS	Workplace Hazardous Materials Information System
LD <sub>50</sub>	Lethal Dose		
mg/m <sup>3</sup>	Milligrams per cubic meter		

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