



Need an Engineered Surface That's as Tough as Asphalt?

Road Oyl® is a patented (U.S. Patent No. 4,822,425) resin-modified emulsion that provides a cold applied high performance treatment for bare earth or unpaved surfaces such as stockpiles or unpaved roads. Formulated from tree resin ingredients, this state-of-the-art, non-ionic emulsion technology is unique in its high bonding strength and is appropriate for use even in close proximity to wetland areas and other areas of environmental sensitivity. Road Oyl® provides the clean, high performance technology needed for any type of project requiring dust control and soil stabilization.

Originally developed to solve severe dust problems on mine haul roads, Road Oyl® has been used around the world for over 15 years. Utilized in the U.S. Military in Turkey and Somalia, landfills in Los Angeles, steel mills in St. Louis, coal mines in Kentucky, Virginia and West Virginia to gold mines in Indonesia. Since Road Oyl® is made from all natural ingredients harvested on a sustainable basis, it has never had a problem being approved for use in any application or as part of an environmental permit issued to an operating entity such as a landfill, steel mill or mine.

Road Oyl® is versatile and multi-purpose in use for dust control, erosion control, stabilization, shoulder treatments and other specialized applications. It has been specifically designed and proven to be a long-term solution for efficient control of road dust as well as for use on mine tailings and stockpiles. Whether you are creating a landing strip, access road, haul road, hardened surface, trail or have erosion control requirements, Road Oyl® provides a reliable, environmentally friendly binder.

Traffic on a Road Oyl® surface will compact the surface into a smooth dust free pavement-like surface. It penetrates road aggregate and binds it into a surface proven stronger than asphalt. Road Oyl® darkens the aggregate or soil that it's applied to slightly but maintains the same basic look, which makes it desirable in natural settings. Road Oyl® does not track when applied as directed.

What is Road Oyl®?

Road Oyl® is a natural flexible pavement binder emulsion formulated from pine rosin and pitch in water. The pitch and rosin, which comprise roughly 50% of Road Oyl® by weight, are co-produced with other timber products from southern pine in the southeastern United States. Pine pitch is a black, viscous "tar" derived from the distillation of wood; before the development of coal tar pitch. Pine rosin is the residue from distillation of turpentine oil from raw turpentine. The Road Oyl® liquid is brownish in color with mild odor. When rubbed between the fingers, it becomes extremely sticky as the water evaporates.

ROAD OYL® penetrates road aggregate and binds it into a surface proven stronger than asphalt. Developed to solve dust problems found in the severe conditions on mine haul roads, **ROAD OYL®** is ideal for all areas where problem dust is an issue.

ROAD OYL® has been specifically designed and proven to be a long-term solution for efficient control of road dust as well as for use on mine tailings, stockpiles, and for erosion control.

Environmentally Friendly

Made from all natural products harvested on a sustainable basis, Road Oyl® is non-hazardous and safe for the environment.

Economical

Road Oyl® is shipped efficiently as a high concentrate and diluted with water before application. With its long lasting nature, you spend less time reapplying, saving you both time and money.

Long Lasting

The condition of the road, the degree of Road Oyl® penetration, and the amount of traffic combine to determine the life of a Road Oyl® application. It also helps stabilize the road in winter by protecting the road from water intrusion.

Suggested Applications:

- ◆ Mine Haul Roads
- ◆ Parking Lots
- ◆ Rural and Access Roads
- ◆ Sub-base Reinforcement
- ◆ Construction
- ◆ Stockpiles
- ◆ Mine Tailings & Ash ponds
- ◆ Erosion Control & Stabilization
- ◆ Roads and Shoulders
- ◆ Trails & Paths
- ◆ Runways
- ◆ Helicopter Landing Pads
- ◆ Hydro seeding

ROAD OYL® is proudly distributed in Africa and in Brazil by
International Commerce Group, Inc.

ROAD OYL® Environmentally Safe Dust Control



ROAD OYL® penetrates road aggregate and binds it into a surface proven stronger than asphalt.



WHERE TO USE ROAD OYL

Developed to solve dust problems found in the severe conditions on mine haul roads, ROAD OYL® is ideal for all areas where problem dust is an issue.

ROAD OYL® has been specifically designed and proven to be a long-term solution for efficient control of road dust as well as for use on mine tailings, stockpiles, and for erosion control.



Traffic on a ROAD OYL® surface will compact the road into a smooth dust free pavement-like surface.

EASY TO APPLY

- For rough roads, grade first
- Dilute ROAD OYL® with water
- Apply in multiple light passes rather than one heavy pass
- Re-apply as needed

ENVIRONMENTALLY FRIENDLY

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ECONOMICAL

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LONG LASTING

The condition of the road, the degree of ROAD OYL® penetration, and the amount of traffic combine to determine the life of a ROAD OYL® application.

ROAD OYL® may help stabilize the road in winter by protecting the road from water intrusion.

NO SPECIAL EQUIPMENT NEEDED

ROAD OYL® can be easily applied using a standard spray truck.

An experienced ROAD OYL® Distributor will work with you to insure a successful ROAD OYL® dust control program.

SUGGESTED APPLICATIONS

- Mine Haul Roads
- Parking Lots
- Stockpiles
- Mine Tailings
- Erosion Control
- Roads
- Runways
- Helicopter Landing Pads
- Hydroseeding

Factors that affect length of ROAD OYL® life:

- condition of road
- depth of stabilization
- grade of the road
- severity of traffic
- spillage
- track-on



Working to Make a Difference

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ROAD OYL® FAQ

1. How long will it last?

It depends on a number of factors such as traffic, track-on, and spillage as well as the condition of the road. Applications are cumulative, so reapplications should become more dilute and less frequent until the maintenance level is reached.

2. Who else is using it?

ROAD OYL® has been used all over the world for over 15 years, from the U.S. Military in Turkey and Somalia, landfills in Los Angeles, steel mills in St. Louis, coal mines in Kentucky, Virginia, and West Virginia to gold mines in Indonesia.

3. What dilution ratio should I use?

ROAD OYL® can be diluted from 4:1 to 15:1 with water. The lower the dilution the more control you will get with each application and the less often you should have to spray. With track on or spillage, use higher dilutions and spray more often.

4. Is it EPA approved?

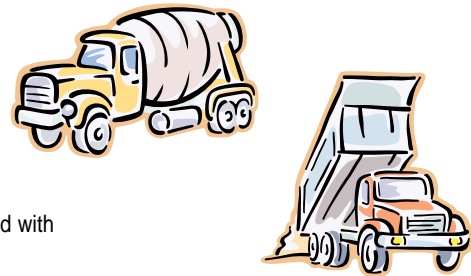
ROAD OYL® is made from all natural ingredients harvested on a sustainable basis. It has never had a problem being approved for use in any application or as part of an environmental permit issued to an operating entity such as a landfill, steel mill, or mine.

5. Will it harm the water truck?

No. When finished spraying, flush the system with water until it runs clear.

6. Will it get on the vehicles?

When freshly applied, it might splash on nearby vehicles.



7. How do I clean it up?

Fresh splashed product can be flushed off with water. Dried product can be cleaned with hot water and detergent.

8. Will it track?

Road Oyl will not track when applied as directed. Excessive application or oversaturation will track when freshly applied.

9. Does it cause rust?

No. It is non-corrosive as well as non-hazardous, non-flammable, and non-toxic.

10. Will it harm my roads?

No. Unlike salts or other water soluble products, it will actually help stabilize the road rather than draw excessive moisture to the road base that can be harmful.

11. Do I need to grade the roads first?

It is not necessary to grade the road. However, we recommend, if the road is rough, grading the road first.

12. How much does it cost?

Road Oyl is an economical solution to dust control. Remember, this is a concentrate that is diluted from 4:1 to 15:1 with water before use. Your actual cost will be determined by the dilution ratio and frequency of application.



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ROAD OYL

MATERIAL SAFETY DATA SHEET

SECTION I -- IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

TRADE NAME: ROAD OYL
CHEMICAL NAME: SPECIALIZED DUST SUPPRESSANT AND SOIL STABILIZATION AGENT
SYNONYMS: DUST RETARDANT
CHEMICAL FAMILY: N/A
MOLECULAR WEIGHT: N/A
FORMULA: N/A
CAS REGISTRY NO.: PRODUCT A BLEND - NO NUMBER ASSIGNED

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

<u>NAME</u>	<u>%</u>	<u>CAS REG. NO.</u>
Proprietary pitch / rosin blend	40 – 60	8016-81-7 8050-09-7 8052-10-6

SECTION III -- HAZARDS IDENTIFICATION

Eye and Skin irritant

SECTION IV -- FIRST AID MEASURES

EYES: Flush eyes with flowing water at least 15 minutes, get medical attention. Remove contact lenses.

INHALATION: Move subject to fresh air. If victim is not breathing perform artificial respiration. Administer oxygen if available. Keep victim warm and at rest. Seek medical attention as soon as possible if breathing difficulty persists.

SKIN: Flush with large amount of water or wash with soap and water. Seek medical attention if irritation persists.

INGESTION: DO NOT induce vomiting because of aspiration into the lungs. Seek medical attention if irritation persists.

NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS.

NOTE TO PHYSICIAN: Monitor respiratory distress. If cough or difficulty breathing develops, evaluate for respiratory tract irritation, bronchitis or pneumonitis.

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SECTION V -- FIRE FIGHTING MEASURES

FLAMMABILITY: Nonflammable, but will burn on prolonged exposure to flame or high temperature.

FLASH POINT (TEST METHOD): >200⁰F (>94⁰C), aqueous blend

AUTOIGNITION TEMPERATURE: Not determined

UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not cut, weld, heat of drill or pressurize empty container.

MATERIALS TO AVOID: Avoid contact with strong oxidizing agents, including peroxides, chlorine and strong acids.

PRODUCTS OF COMBUSTION: Carbon dioxide, carbon monoxide, smoke and irritating

EXTINGUISHING MEDIA AND INSTRUCTIONS:
If a tank, railcar or tank truck is involved in a fire isolate for 0.5 miles in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn itself out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of the tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion.

SMALL FIRE: use dry chemicals, foam, CO₂.

LARGE FIRE: use water spray, fog of foam. For small outdoor fires portable extinguishers may be used and SCBA (self contained breathing apparatus) may not be required. For all indoor fires and any significant outdoor fires SCBA if required. Respiratory and eye protection are required for fire fighting personnel.

SECTION VI - ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES:

ELIMINATE ALL IGNITION SOURCES. Stop leak without risk and contain spill. Absorb with inert absorbent materials such as clay or sand. Place absorbent in closed metal containers for later disposal or burn in appropriate facility. Keep spills out of sewers and open bodies of water.

SECTION VII -- HANDLING AND STORAGE

STORAGE: Keep in a cool, dry, ventilated storage area and in closed containers. Keep away from sources of ignition and oxidizing materials. DO NOT FREEZE

HANDLING: KEEP AWAY FROM SOURCES OF IGNITION. Do not reuse empty containers. Practice good hygiene. Wash hands before eating. Launder clothes before reuse. Discard saturated leather goods.

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SECTION VIII -- EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: None required if good ventilation is maintained. If mist is generated by heating or spraying use a NIOSH approved organic respirator with a mist filter.

VENTILATION: Under normal handling conditions special ventilation is not necessary. If operation generates mist or fumes use ventilation of keep exposure to airborne contaminants below exposure limits.

EYE PROTECTION: Chemical splash, goggles recommended.

PROTECTIVE CLOTHING: Clothing to minimize skin contact, long sleeves, boots or shoes. For casual contact PVC gloves are suitable, for prolonged contact use neoprene or nitrile gloves.

SECTION IX -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING/MELTING POINT @ 760 mm Hg: 212°F (100°C)

VAPOR PRESSURE mm Hg @ 20°C: N/D

SPECIFIC GRAVITY OR BULK DENSITY: 0.9 – 1.1

SOLUBILITY IN WATER: dilutable

APPEARANCE: light brown colored liquid emulsion

ODOR: musty, woody

pH: 6 – 9

SECTION X – STABILITY AND REACTIVITY

STABILITY: Stable under normal handling conditions.

CHEMICAL INCOMPATIBILITY: Can react with strong organic oxidizing materials, acids and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide, smoke, hydrocarbons and irritating fumes of sulfide oxides.

HAZARDOUS POLYMERIZATION: Does not occur under normal industrial conditions.

CONDITIONS TO AVOID: Excessive heat and flame.

CORROSIVE TO METAL: Similar to water

SECTION XI -- TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE

INHALATION: Inhalation is highly unlikely. However prolonged or repeated inhalation of fumes or mists may cause irritation to the respiratory tract. Product deposits in lungs may lead to fibrosis and reduced pulmonary function.

SKIN: Prolonged or repeated contact may cause skin irritation, dermatitis or oil acne.

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EYES: Prolonged or repeated contact may be irritating to eyes. Will not cause permanent damage.

INGESTION: Relatively non toxic to digestive tract.

SECTION XII -- ECOLOGICAL INFORMATION

When used and applied properly ROAD OYL is not known to pose any ecological problems.

SECTION XIII -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Consult your local authorities for regulations. Preferred waste management: recycle or reuse, incinerate with energy recovery, disposal in a licensed facility. Disposal facility should be compliant with state, local and federal government regulations.

SECTION XIV -- TRANSPORTATION INFORMATION

D.O.T. PROPER SHIPPING NAME (49CFR172.101): Dust Control Agent

D.O.T. HAZARD CLASSIFICATION (49CFR172.101): Non-regulated

D.O.T. PLACARDS REQUIRED: None

BILL OF LADING DESCRIPTION: Dust suppressant

SECTION XV-- REGULATORY INFORMATION

EPA SARA Title III hazard class: None

OSHA HCS hazard class: Irritant

CERCLA (40 CFR 302.4): None

TSCA: Components of this product are listed on TSCA inventory.

Canadian WHMIS classification: D2B, irritant

Canadian DSL: All components of this product are listed on DSL (Domestic Substance List).

California Proposition 65: Does not contain any Prop 65 chemicals.

SECTION XVI -- OTHER INFORMATION

ABBREVIATIONS AND SYMBOLS:

N.D. - Not Determined
< - LESS THAN

N.A. - Not Applicable
> - MORE THAN

N.T. - Not Tested