

INTERNATIONAL CONSULTING GROUP, INC.

Global Trade & Economic Development Consultancy



Synthetic Organic Dust Control^{IM} DISTRIBUTED BY ICG IN AFRICA & BRAZIL

The Future of Heavy-Duty Mine Road Maintenance is here!

EK-35® Synthetic Organic Dust ControlTM has undergone rigorous testing and been certified by independent agencies, verifying that it controls PM10, PM2.5 and Total Particulate Matter with control efficiencies of 100%! The United States Environmental Protection Agency's Environmental Technology Verification Program (US EPA/ETV), the Midwest Research Institute (MRI) and RTI International have verified the outstanding effectiveness of EK-35®.

Introducing EK35® -Synthetic Organic Dust Control™, the revolutionary NEW patented formulation that can produce hundreds of thousands of dollars in savings by reducing operational costs and increasing asset utilization.

If you're looking for long lasting dust control appropriate for many industrial applications...look no further than EK-35®!

Our Manufacturer's research and development laboratory worked for over five years to bring you EK-35®...a REVOLUTIONARY, patented technology formulated for use on runways, vehicle staging areas, helicopter landing zones, unpaved roadways, underground mines, campgrounds, truck terminals and areas adjacent to living quarters. EK35® is applied neat to haul road surfaces providing a dual patented mechanism for dust control and soil stabilization. The penetration ability provides a new dust suppressing mechanism, which acts as a durable, re-workable binder. EK35® works well with all aggregate materials and soil types. It effectively stabilizes deep dust and loose surface materials.

EK35® applications last longer than other ordinary chemical suppressants, therefore requiring fewer maintenance applications. The surfaces are re-workable. This continuously active suppressant is resistant to rain for long periods of time.

EK35® will stop the cycle of roadway deterioration caused by watering, grading, lost aggregate and heavy traffic on mine haul roads. EK35® will preserve fines, increase density and maintain the stability of the surface. Along with the road's natural crown, EK35® will work to allow better drainage, reducing or greatly eliminating wash boarding, potholing and rutting.

WHAT ARE EK35® BENEFITS?

- ♦ Decrease O & O Costs!
- ◆ Decrease Haul Road Maintenance Costs!
- ♦ Increase Air Pollution Compliance!
- ♦ Increase Asset Utilization!
- Longer Lasting than Ordinary Chemical Suppressants
- Works Well with All Soil Types and Materials
- Durable Enough for Tracked and Chained Vehicles
- ♦ Stabilizes Deep Dust and Heavy Powder

- ◆ Works Well on Surface Dust and Loose Surface Materials
- Requires Fewer
 Maintenance Applications
- ♦ A Continuously Active Suppressant
- ◆ Applied Neat NO Water Required
- ◆ For Intense Use Traffic Sites
- ♦ Environmentally Friendly
- ♦ Resistant to Rain
- ♦ Best Contamination Control







The World

Leader In

Environmentally

Sound

Dust Control

Solutions.

Midwest Industrial Supply, Inc. is the world leader in environmentally sound, dust control technology. We were Number 1 in introducing synthetic organic dust-suppressant products formulated to meet strict environmental requirements. But being first isn't the only reason we're Number 1. We offer more than any other manufacturer in terms of solutions, documentation and support. When you choose our products, you'll know you're using the best.



the preferred Solutions for every application where Fugitive Dust is a problem.

We Invented The Product Category

Midwest researched and developed the use of synthetic organic products for dust control. As the need for more environmentally sound dust suppressants was growing, we were the first to respond with the innovative EnviroKleen® and EK35®. These are the two purest and best-performing chemical dust suppressants on the market today.

The World's Safest Dust Control Product



EnviroKleen is manufactured using a patent-pending process.

The product is clear, odorless and nontoxic to humans,
animals and plants—on land and in the water. No other dust
control product in the world is as safe.

Independently Tested And Proven

Unlike other chemical dust suppressants, Midwest's products have been tested and their performance verified by numerous independent and government organizations, including the United States Environmental Protection Agency.

With its high-quality test data, the agency's Environmental Technology Verification Program (USEPA ETV) confirms that Midwest solutions are superior to comparable products.





the preferred Solutions for every application where Fugitive Dust is a problem.



The Smart Solution For Most Applications

Midwest products are the right choice for controlling fugitive dust in industrial, construction and municipal applications. They are as economical as they are effective because they provide longer-lasting performance than alternative dust-suppressant methods. What's more, using our products helps reduce vehicle and aircraft maintenance to further reduce operating costs.

Preferred By The U.S. Military

Dust, dirt and sand are safety hazards because they obstruct vision and attack critical vehicle and aircraft parts. Midwest dust suppressants are the products of choice for CH46 Chinook and CH53 Sea Stallion helicopter pilots. In addition, United States Army Corps of Engineers' tests rank Midwest products No. 1 in all categories. When the success of military maneuvers or battlefield encounters depends on clear visibility, the U.S. military chooses Midwest.

Let the best source advise you on the best solution for your dust control problems. Contact Midwest today.





Delivery Systems For
Our Environmentally Sound,
Dust Control Products

At Midwest, we not only develop the products for safe suppression of dust and contaminants, we also **DESIGN AND MANUFACTURE** the delivery systems to effectively apply them. Choose from our complete line of Wolverine delivery systems with Midwest's exclusive **GLOBAL DUSTRACKING SYSTEM™** feature.



Custom design developed in conjunction with the U. S. military.

For the preferred solutions to your dust control problems, contact us today:

MIDWEST INDUSTRIAL SUPPLY, INC.

1-800-321-0699

P.O. Box 8431 • Canton, OH 44711 U.S.A. • www.midwestind.com

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EK35®

Synthetic Organic Dust Control[™]

MATERIAL SAFETY DATA SHEET

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

TRADE NAME: EK35[®] SYNTHETIC ORGANIC DUST CONTROL $^{\text{TM}}$

CHEMICAL NAME: ISOALKANE AND BINDER SYSTEM

SYNONYMS: DUST RETARDANT AND STABILIZATION AGENT

CHEMICAL FAMILY: FORMULATED ISOALKAND AND BINDER (Patents #7,081,270 and #7,074,266)

CAS REGISTRY NO.: PRODUCT A BLEND - NO NUMBER ASSIGNED

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

NAME
Severely hydrotreated, high viscosity synthetic

90
CAS REG. NO.
Non-hazardous

iso-alkane

Carboxylic Acids (fatty acids) 30 – 70 % Non-hazardous

SECTION III -- HAZARDS IDENTIFICATION

Synthetic Isoalkane May be irritating to breathing passages upon excessive heating, otherwise this

product is essentially non-hazardous.

Mist 8 hour TLV-TWA = $5mg/m^3$ (ACGIH)

SECTION IV -- FIRST AID MEASURES

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

Do not use any eye ointment. Remove contact lenses.

INHALATION: Move subject to fresh air. If victim is not breathing perform artificial respiration.

Administer oxygen if available. Keep victim warn and at rest. Seek medical

attention as soon as possible.

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. EK[®]35 has

a laxative effect and will be eliminated quickly. Seek medical attention.

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.

>284°F (>140°C), open cup, ASTM D92, Cleveland FLASH POINT (TEST METHOD):

 $>455^{\circ}F (235^{\circ}C)$ **AUTOIGNITION TEMPERATURE:**

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

Low fire hazard. Must be moderately heated before ignition

will occur. Avoid contact with strong oxidizing agents,

including peroxides, chlorine and strong acids.

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

fumes as products of incomplete combustion.

EXTINGUISHING MEDIA AND INSTRUCTIONS:

If a tank, railcar of 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 chemic als, 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 signific ant 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.

HANDLING: KEEP AWAY FROM SOURCES OF IGNITION. Do not reuse empty

containers. Practice good hygiene. Wash hands before eating. Launder

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clothes before reuse. Discard saturated leather goods.

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: >493°F (>256°C)

VAPOR PRESSURE mm Hg @ 20°C: negligible at ambient temperature

SPECIFIC GRAVITY OR BULK DENSITY: 0.85 – 0.95 **SOLUBILITY IN WATER:** insoluble in water

APPEARANCE: viscous, brown colored liquid

ODOR: none

POUR POINT: $<15^{0}\text{F} (<9^{0}\text{C})$

VISCOSITY (**Brookfield**): $150 - 250 \text{ cps } @ 20^{0} \text{ C}$

 $550 - 650 \text{ cps } @ 0^{0} \text{ C}$ $750 - 850 \text{ cps } @ -5^{0} \text{ C}$

pH: N/A, not an aqueous solution or emulsion

ACIDITY: none

ALKILINITY: none

SECTION X – STABILITY AND REACTIVITY

STABILITY: Stable under normal handling conditions.

Stable stored at temperatures between -40^{0} F and $+180^{0}$ F

CHEMICAL INCOMPATIBILITY: Can react with strong organic oxidizing materials.

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HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition in the presence of air may yield

carbon monoxide and/or carbon dioxide, smoke,

hydrocarbons and irritating fumes.

HAZARDOUS POLYMERIZATION: Does not occur under normal industrial conditions.

CONDITIONS TO AVOID: Excessive heat and flame.

CORROSIVE TO METAL: No

SECTION XI -- TOX ICOLOGICAL 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: It is not a skin irritant However prolonged or repeated contact may cause skin

irritation, dermatitis or oil acne.

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

damage.

INGESTION: Relatively non toxic to digestive tract.

MUTAGENIC: Mutagenic activity test are negative toward: Salmonella Typhimurium, Salmonella -

Eschrichia coli and Chinese Hamster ovary.

REPRODUCTIVE TOXICITY: Based on data to date it does not pose a reproductive risk.

CARCINOGENICITY:

Based on studies to date EK35[®] is not known to be carcinogenic to humans

ACGIH (mists) - Based on available human studies, exposure to product mist alone has not demonstrated to cause human effects at levels below 5 mg/m³.

IARC - IARC group 3; cannot be classified as to carcinogenicity to humans.

NTP - No studies were found. IRIS - No studies were found.

OSHA - OSHA PEL (8 hour TWA) = 5 mg/m^3 for synthetic product mists.

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SECTION XII -- ECOLOGICAL INFORMATION

EK35 Aquatic Toxicity Test Results

^{*}Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms, EPA/600/4-91/003.

	Ceriodaphnia dubia	Fathead minnow	Americamysis bahia	Rainbow Trout
ACUTE/SURV	/IVAL (mg/L)			
LC50	>1000	271	111	
NOEC	1000	125	63	
LOEC	>1000	250	130	
CHRONIC/SU	RVIVAL (mg/L)			
LC50	>1000	97.3	58.6	23
NOEC	500	31.3	25	10
LOEC	1000	62.5	50	20
CHRONIC/GI	ROWTH/ REPRODUCTION	(mg/L)		
LC50	375	114	>50	>10
NOEC	250	31.3	50	10
LOEC	500	62.5	>50	>10
See attached test results:				

^{*}Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, EPA/600/4-90/027F.

^{*}Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA/600/4-91/002.

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- 1. ABC Laboratories, Inc. Americamysis bahia, Fathead minnow, Ceriodaphnia dubia.
- 2. ABC Laboratories, Inc. Rainbow Trout

LC50 -Lethal Concentration, 50%

NOEC - No Observable Effects Concentration LOEC - Lowest Observable Effects Concentration

The LC₅₀ level is the lethal concentration of the chemical under test that kills 50% of the test organisms in the specified amount of time. According to the EPA-540-9-85-006, suggested toxicity criteria for materials are listed in the table below. Comparison of the EPA guidelines to the LC₅₀ of EK35® show a range of toxicity from practically non-toxic to moderately toxic depending on the species and the exposure time. When used and applied properly EK $^{\$}$ 35 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): None HAZARDOUS SUBSTANCE (40CFR116): N/A REPORTABLE QUANTITY (RQ): N/A

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

D.O.T. PLACARDS REQUIRED: None

POISON CONSTITUENT (49CFR173.343): N/A

BILL OF LADING DESCRIPTION: dust control agent

C NO.:

UN/NA CODE: N/A

SECTION XV-- REGULATORY INFORMATION

EPA SARA Title III hazard class: None

OSHA HCS hazard class: Non-OSHA hazardous (29CFR1910.1200)

EPA SARA Title III Section 313 (40CFR372) Toxic Chemicals present in quantities greater

than the "de minimus" level are: None

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N.T. - Not Tested

Canadian WHMIS: This product is not a "controlled product" under the Canadian

Workplace Hazardous Material Information System

(WHMIS)

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 N.A. - Not Applicable

< - LESS THAN > - MORE THAN

DATE REVISED: 08/14/2006