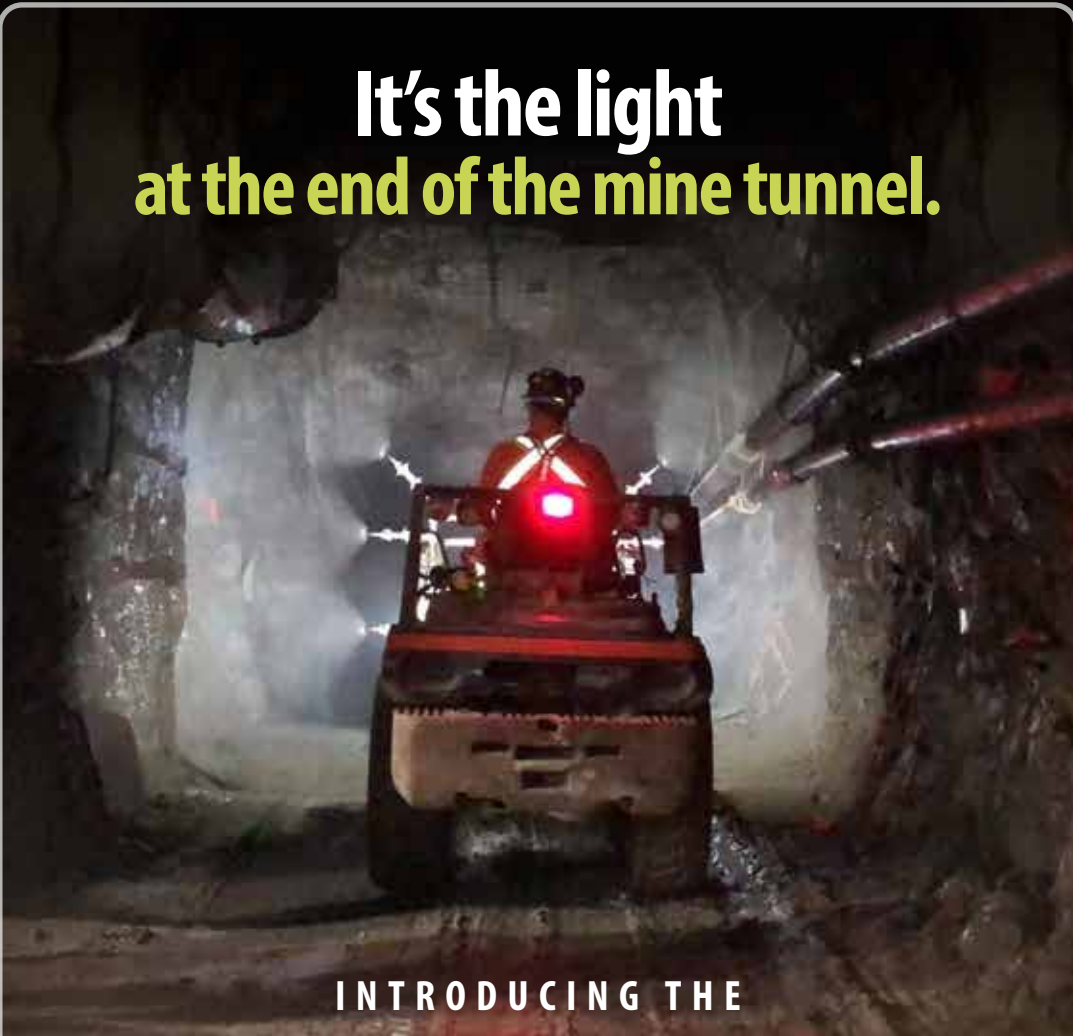


NEW!

**It's the light
at the end of the mine tunnel.**



INTRODUCING THE

MineKleen[®]
Underground Mine Dust Control System

Harmful underground dust is finally defeated (even on backs and ribs!)



Dust is one of a miner's worst enemies. You can become one of their biggest heroes.

A COMPLETE SYSTEM TO COMBAT HAZARDOUS DUST.

The underground never rests. It has to run and it has to keep running. The problem is — dust is everywhere. It's hard to see and harder to breathe. Productivity and efficiency decrease.

Now you can solve one problem that impacts so many aspects of your mining operations. Dust is a health hazard that can even halt production, and we all know that downtime is deadly. Midwest has invented a total system to almost completely wipe out dust, using the ultimate combination.

PROVEN TO REDUCE
DUST UP TO

95%



THE MOST EXTREME CONDITIONS DEMAND THE MOST EXTREME REMEDIES THAT DELIVER THE MOST EXTREME RESULTS.

Midwest's MineKleen® system works. And there's nothing else like it. Midwest chemists have formulated compositions expressly for underground mines that are applied with proprietary equipment built for mine access and agility:

- > sprays roads, ribs, backs all at one time, or as needed (only two applications per month)
- > has fork pockets, easy-to-use with various types of underground equipment
- > inhibits the growth of mold
- > applies neat — waterless, colorless and odorless
- > eliminates dust and watering up to 95%
- > ensures a safer and healthier environment for miners
- > meets strict MSHA, Clean Air Act, Clean Water Act requirements plus Canadian provincial, territorial and federal regulations

THE MINEKLEEN® UNDERGROUND MINE DUST CONTROL SYSTEM

1. **MineKleen® Formula**
2. **MineKleen® Sprayer**
3. **Step-by-Step Installation Video**
4. **Easy-to-Read User Manual**
5. **Midwest Technicians Available for Training, Field Support, Service**





1. Mine-Specific Formulations

MINEKLEEN® BASIC AND MINEKLEEN® PLUS

Midwest's proprietary, advanced MineKleen® formulations are specific to underground use, carefully crafted to dramatically reduce dust and inhibit the growth of mold. MineKleen® Plus is the optimal recommendation, due to the addition of polymeric binder systems to improve service life and reduce applications. This stabilization advantage is possible because it delivers both an adhesive (a force of attraction between different kinds of molecules) and a cohesive (with the same types of molecules) dust-binding mechanism.

MineKleen® Plus quickly penetrates dust and remains actively effective on clay, sand, gravel, limestone and most native soils regardless of how severe the traffic. The binder system interlocks and durably binds surface aggregate and fines together, preventing them from escaping as dust.

While MineKleen® Basic does not feature those added benefits, it represents an economical alternative for those who want to see for themselves the effectiveness of using the MineKleen® system at a more limited initial investment. Both MineKleen® formulations are environmentally safe and ready to spray.



- > 100% active patented formulations, with binders or without
- > storable outside year-round with a very long shelf life
- > requires no dilution or mixing
- > will not stick to vehicles, nor plug or clog equipment
- > unaffected by humidity or its absence; performs well at extreme temperatures
- > continuously active (will not dry out)
- > non-corrosive/non-irritating
- > applies neat – waterless, colorless and odorless

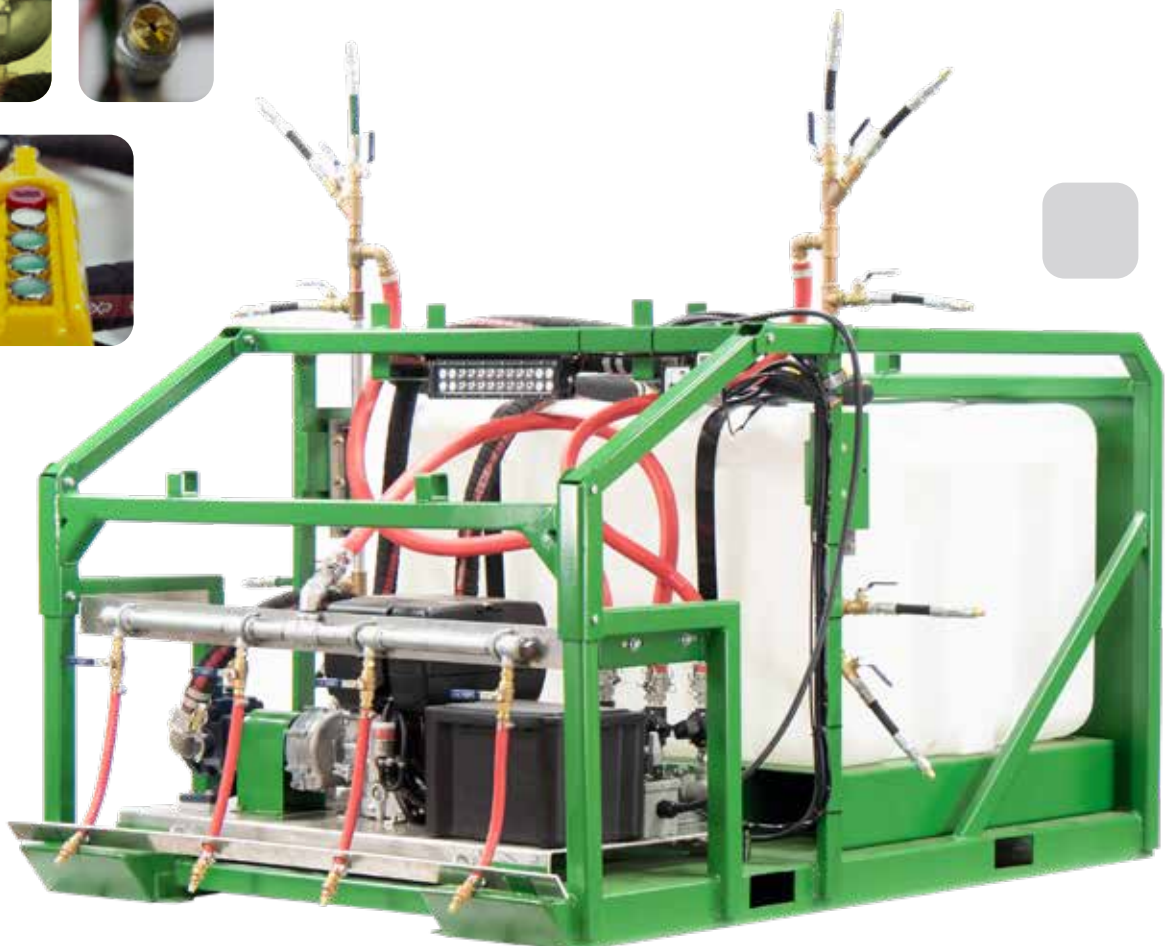
2. Underground-Designed Equipment

MINEKLEEN® SPRAYER

MineKleen® Sprayer is a rugged and compact spray application system that was designed by miners for miners, and will fit into most underground shafts. The eye hooks, fork pockets and sled-style bottom provide for easy transport and use with various types of underground equipment. The MineKleen® Sprayer saves time and money, as it can spray floors, backs and ribs, simultaneously or separately. It applies up to 14 gallons-per-minute for dust suppression and/or stabilization, doing so while preventing over-spraying.

The system weighs 1,300 LBS (1,800 LBS shipping). Its holding tank has a 200-GAL capacity and 1.1-L fuel capacity.

- > There's plenty of power for challenging underground terrain with a Hatz 1B30 6.8 HP diesel engine. Additional features include:
- > Haight® positive displacement pump
- > 56" W x 79" L x 45" H cage enclosure
- > ground and sidewall spray bars
- > battery with lockout/disconnect switch
- > electric engine starter
- > 5-button in-cab handheld spray control
- > pressure relief valve and y-spray connection
- > 14-inch 3000-lumen LED light bar
- > vented spray tank lid
- > high-pressure, oil-resistant connection hoses





3. & 4. On-Site Self Learning

STEP-BY-STEP INSTALLATION VIDEO AND EASY-TO-READ USER MANUAL

Seeing is learning. Midwest has been helping underground mine operations for nearly half a century, and not only knows how to formulate the most effective products and design the most efficient application equipment, but also has become known as the miner's best friend by providing the most helpful information.

By combining a 9-minute how-to video with a 14-page, in-depth manual, operators can get their Midwest MineKleen® Underground Mine Dust Control System up and running in no time, with no sweat.

The Installation Video takes you through the entire process in a simple show-and-tell format, teaching personnel at any level of experience how to get it right the first time. Our User Manual provides critical equipment misuse and proper use specifications; describes every aspect and component of the equipment, including multiple photographic views with call-outs; steps for unpacking, setup, inspection (using a handy checklist), filling the tank (with a chart for various application rates); shutting down properly; trouble-shooting items; and contact info for technical support.

To see how easy it is, view the video by clicking below.



5. Midwest Technicians

AVAILABLE FOR TRAINING, FIELD SUPPORT, SERVICE

As the industry leader, Midwest puts equal emphasis on educating our customers for our mutual success as we do in product and equipment development. Midwest brings our customers more solutions, documentation and support than any other manufacturer. On a daily basis, we challenge ourselves to become even more accessible problem-solvers so we can set a new industry standard for proactive and responsive service.

We know and understand that gaining confidence remains a challenge when implementing innovation changes. We understand the obstacles to implementation of new technologies which often result in deployment challenges, which is why we work with you to achieve proper scale-up and large scale demonstration. Midwest is active in training of your personnel, with a transfer of knowledge always part of the plan.

- > ongoing service training and support is KEY to success
- > part of the entire process
- > active during testing and scale-up phases
- > understand how intensive it is getting everyone on same page
- > routinely visit and monitor progress



**DOWNLOAD
CASE STUDY**



PERFORMANCE THAT'S PROVEN.

Midwest leads the industry because we don't make claims we can't back up with scientifically supported proof of effectiveness. Here's a case study from a real underground mining operation that switched to the MineKleen® system.

Application frequency of MineKleen® formulations will vary, but in some cases only one application per month is required, reducing vehicle use for watering. Now miners can have clean air and clear roads, for better health and safety, as well as optimum production.

	Watering	MineKleen® Basic	MineKleen® Plus
APPLICATION RATE — ROADS	Up to 4-6 times daily	3-4 times per month	1-3 times per month
APPLICATION RATE — RIBS & BACKS	1-2 times daily	Once every 1-2 months	Once every 2-3 months
EVAPORATION	Fast, abetted by ventilation in mine	Does not evaporate; stays 100% active without humidity	Does not evaporate; stays 100% active without humidity
ROADWAY CONGESTION	Greater frequency of application equals more congestion; turnaround difficult in areas far from water source	Dramatically reduces road congestion with adhesion properties	Dramatically reduces road congestion with adhesion and cohesion due to binder system
MANPOWER	Requires dedicated staff daily	Enables staff to be freed up for other operations	Enables staff to be freed up for other operations

Midwest develops your program, which is customized to your site.

We live in a problem/solution world. Midwest has been inventing new ways to solve problems in mining operations for 45 years. Mines were our first customers, and we have unsurpassed experience in solving mining operation dust problems. Midwest leads in innovating, with 49 patents granted for cutting edge technology — including designing and building our own application equipment — to get extreme results in challenging mine underground conditions.

We focus on understanding your worksite's unique challenges, and then design a solution using our independently certified dust control products targeted at solving those problems.

After all, anyone can sell you a product, but Midwest's MineKleen® Underground Mine Dust Control System combines product chemistry for mine underground dust control in a dynamic mining environment with expert application, supported by ongoing service and testing.



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