

July 23, 2002



PRODUCT INTRODUCTION

STAR RUST-ARREST

Acrylic latex specialty coating

Dear STAR Family Members:

We are glad to present to you **STAR RUST-ARREST**, *an innovative new product*, developed especially to eliminate rust spots on asphalt surfaces.

This is the first product of its kind in our business.

We will assist you in promoting **STAR RUST-ARREST**, as a problem-solver product.

Please look for our full-page (inside cover) advertisement in the August issue of the "Pavement Trader" magazine.

Thanks for your continued support and guidance.

Sincerely,
S.T.A.R, INC.

NEW STAR PRODUCT



STAR RUST-ARREST

Acrylic latex specialty coating

What is rust?

Rust is Iron Oxide (s) and is formed as Iron oxidizes in the presence of air and moisture.

What are the brown spots and streaks in asphalt & concrete pavements?

They are rust spots and streaks. They develop as the asphalt ages and oxidizes.

Iron in asphalt and concrete? How does that happen?

Iron is introduced in the asphalt or concrete mix through the aggregate. The aggregate may contain Pyrites or iron deposits. With age, these types of iron contaminants in the aggregate oxidize and convert into oxides of iron (rust).



Why are they even allowed in the aggregate? Can they be removed?

The iron ores, pyrites and other ores and minerals are naturally occurring parts of the aggregate. Departments Of Transportation (DOTs) allow a certain degree of rust spots (per square yard) in asphalt and concrete pavements. Theoretically they can be removed but not economically.

What happens to rust spots with age?

With aging, the iron contaminants continue to oxidize and turn brown due to the formation of iron oxide. They also expand in volume because iron oxides occupy more volume than their original iron compounds. This results in eruptions through the surface of the asphalt pavement.

What if they are left alone and nothing is done?

The erupted spots will be the *sites of failure in the pavement*, through which water and other damaging elements will enter and damage the pavement.



How about sealcoatings? Don't sealcoatings stop rust spotting?

No.! Sealcoatings will not stop rust from progressing. On a freshly sealcoated lot you may get the impression that the rust spots are under control because they are temporarily covered. However, the iron in the aggregate continues to oxidize and expand under the sealcoating. Within a few days the rust spots



begin to appear as silvery streaks on the sealcoated surface. As more time passes, these streaks turn brown and finally the rust spots erupt through the sealcoating.

Yes that is correct. I have seen it come through traffic lines, handicap marking, etc.

How to stop rusting and protect the pavement?

The source of rusting i.e. the iron in the aggregate has to be converted into another compound that will not oxidize into iron oxides (rust).

What do you recommend?

STAR RUST-ARREST

STAR RUST-ARREST is a specialty product especially developed to stop rusting on pavements. The product is water based, with a paint type consistency.

Some highlights are;

- Highly efficient. Will stop rusting completely for years.
- Based on rubber latex, specialty chemicals and surfactants

- Easy to use with any conventional application equipment, spray, brush, roller, etc.
- Highly cost effective. Application rate is approx. 150 sq. ft./gallon
- Dries to satin black color.

How to use STAR RUST-ARREST?

Use as primer coat using **STAR RUST-ARREST** at full strength.

Apply with a brush or roller for spot priming

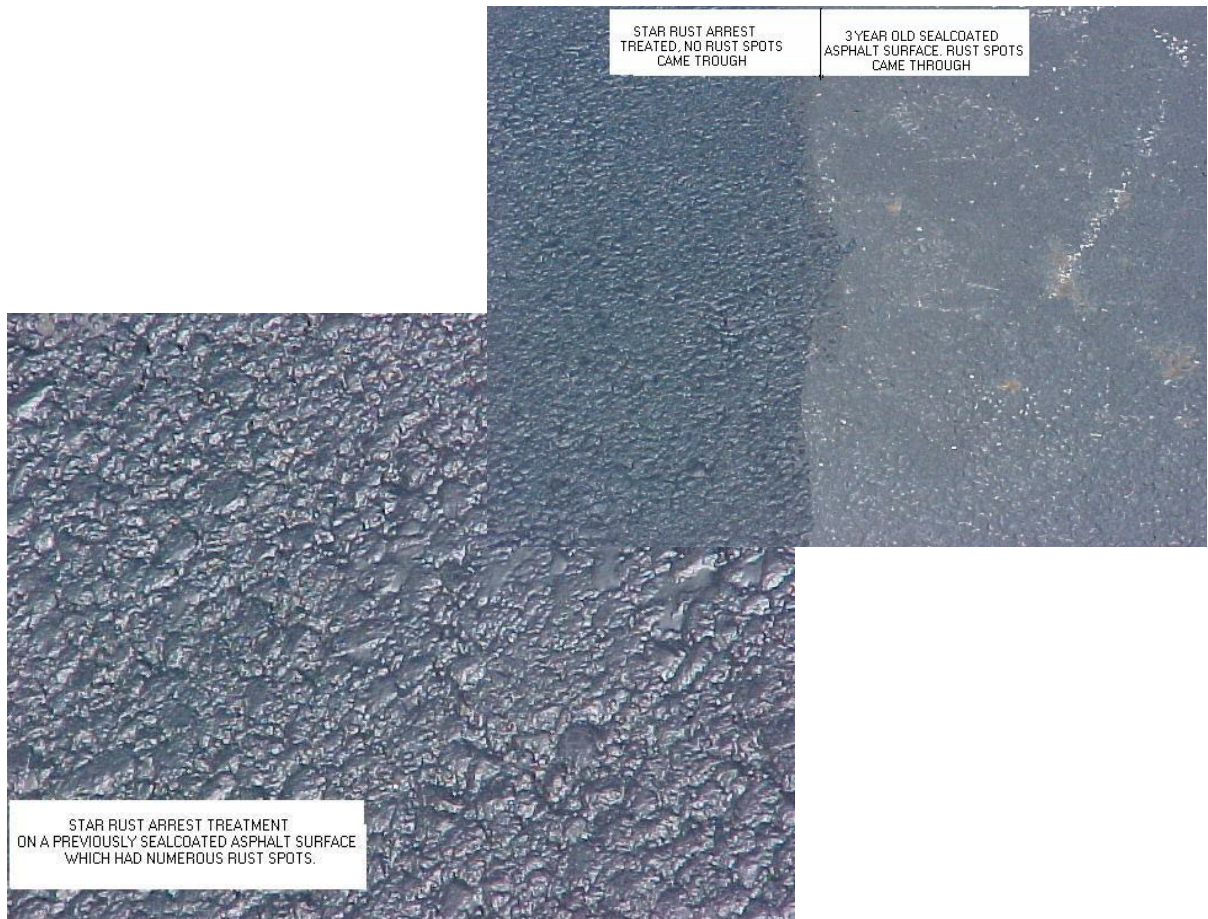
For extensively rust spotted areas use a sprayer.

After using STAR RUST-ARREST, does the pavement have to sealcoated?

It may be sealcoated for a uniform textured appearance but sealcoating is not essential.

Can STAR RUST-ARREST be used on sealcoated parking lots that are rusting?

Yes. It will be very effective and stop rust from ever appearing.





STAR RUST-ARREST

**Acrylic latex specialty coating
to stop and hide pavement rust spots.**

GENERAL DESCRIPTION

STAR RUST-ARREST is an acrylic based coating that hides and stops rust spots in asphalt pavements. Without the use of **STAR RUST-ARREST**, rust spots erupt even through sealcoated surfaces.

HIGHLIGHTED BENEFITS

- Will stop rust spotting
- Easy to use. Use straight from the container. Minimal on-the-job mixing.
- Applied by any conventional method; brush, spray, roller.
- Dries in 30 minutes.
- Dries to black rich satin finish.
- Economical, covers 125-150 sq. ft/ gallon.
- Safe to store and easy water clean up.
- Use as a black coating by itself or sealcoat after treating the rust spots.

RECOMMENDED USES

On all asphalt surfaces with rust spotting problems; parking lots, airports, gas stations, home driveways, schools, malls, etc.

***Use STAR RUST-ARREST as a black out paint
to hide old traffic markings.***

APPLICATION NOTES

- Clean the rust spotted areas with a broom or air blower, to remove all adhering dirt and debris.
- Use brush, roller or spray to apply **STAR RUST-ARREST** to treat rust spotted areas.
- Do not apply when rain is in the forecast within 4 hrs. Apply only when the ground and ambient temperatures are min. 50 ° F and rising and sustained for at least 8 hrs.

PRECAUTIONS

Keep out of reach of children

Follow all safety instructions for handling and storage.

Contains refined coal tar. Read the Material Safety Data Sheet (MSDS).

Keep the partially used containers tightly closed.

Dated 7.23.02



<p>Manufacturer: S.T.A.R., INC. 1400 Walcutt Road Columbus, Ohio 43228</p>	<p>Emergency Phone No. CHEM-TEL 800-255-3924 Information Phone No. 614-870-0744 Effective Date 07/02/02 Supersedes Date -</p>
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SECTION I - IDENTIFICATION

<p>Product Name: STAR RUST ARREST, Specialty Latex Coating. Chemical Family - Specialty Chemicals and Refined Coal Tar Pitch emulsion Chemical Name - Proprietary Chemicals and Refined Coal Tar Pitch. Prepared by - G.C. Dubey</p>	<p>H.M.I.S. Health = 1 Fire = 1 Reactivity= 0</p>
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SECTION II- INGREDIENTS

<u>Ingredients</u>	<u>CAS NO.</u>	<u>WT%</u>	<u>Exposure Limits</u>	
			<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Hazardous Ingredients				
Coal Tar Pitch	65996-93-2	11-12	0.2 mg/m3 (Volatiles)	0.2 g/m3 (Volatiles)
Listed in SARA Title III, Section 313- No.				
STEL - N/A*				
LC 50 - N/A				
LD 50 - N/A				
Other Ingredients				
Water	7732-18-5	53-54	N/A	N/A
Listed in SARA Title III, Section 313 - No.				
STEL - N/A				
LC 50 - N/A				
LD 50 - CTI OVER 320,000				
Acrylic Latex/Specialty Chemicals	N/A	35-37	N/A	N/A
Listed in SARA Title III, Section 313 - No.				
STEL - N/A				
LC 50 - N/A				
LD 50 - N/A				

Ingredients total weight % are below 100 % only if all other unlisted ingredients are not considered hazardous by any federal (OSHA, WHMIS,SARA), any state or province or local Right-To-Know regulations.

SECTION III - PHYSICAL DATA

<u>Boiling Point</u>	<u>Vapor Pressure</u> (mm Hg)	<u>Vapor Density</u> (Air=1)	<u>Appearance</u>
Over 212 °F	approx. 25	1	Black liquid with tar and latex Odor.
<u>Evaporation Rate</u> (Water=1)	<u>Specific Gravity</u>	<u>% Volatile</u>	<u>Freezing Point</u>
1	by wt. 1.05 - 1.1	52 - 55	32 °F / 0 °C
<u>Miscibility with Water</u>	<u>Threshold Odor</u> ppm-	<u>pH</u>	<u>Water/Oil Dist Coeff.</u>
Infinite	N/A	6 - 7.5	1/1

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

<u>Flammability Classification</u>	<u>Flash Point</u> (method used)	<u>Flammable Limits</u>	
N/A	N/A	LEL	UEL
<u>Combustion Products</u> CO, CO ₂ , Hydrocarbons	<u>Extinguishing Media</u> Foam, Dry Chemical, CO ₂	N/A	N/A

Unusual Fire and Explosion Hazards: Containers may rupture due to steam pressure build up when exposed to intense heat. Product may splatter if the temperature exceeds the boiling point of water.

Special Fire Fighting Procedures: Water may be used to Cool exposed containers to prevent pressure build up and possible rupture. Wear self-contained breathing equipment and protective clothing. Water may be ineffective to control fires. If water is used, fog nozzles are preferred.

<u>Explosive Power</u>	<u>Burning Rate</u>
N/A	N/A

<u>UN/NA/PIN#</u>	<u>Static Sensitive</u>	<u>Impact Sensitive</u>
N/A	NO	NO

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value - see section II.
Routes Of Entry - Skin, Eyes, Inhalation, Ingestion
Effects Of Overexposure - Acute: YES Chronic: NO

Eyes - May cause eye irritation which in absence of recommended first aid may result in severe burns.

Skin - May cause irritation or more harmful effects when not washed off or when accentuated by sunlight, skin contact with the product volatiles may result in severe burns.

Inhalation- May cause nausea and headache. Prolonged and repeated inhalation may be harmful to respiratory system.

Ingestion- May cause nausea, cramps, vomiting, diarrhea or acute effects. May be fatal in large amounts.

Unusual Chronic Toxicity: May cause cancer of the skin, lungs, kidney and bladder. Prolonged or repeated contact over many years in the absence of good hygiene and personal protection may lead to changes in skin pigmentation and skin tumors.

Carcinogenic: IARC- YES ACGIH- YES

Emergency and First Aid Procedures

Eyes- Immediately flush with plenty of water for 15 minutes, call a physician, if condition persists.

Skin- Wash thoroughly with plenty of water and soap. Remove and wash contaminated clothing.

Consult a physician if irritation persists.

Inhalation- Move to fresh air, Restore breathing if required. Treat symptomatically. Consult a physician.

Ingestion- Do not induce vomiting. Seek physician immediately and show M.S.D.S. or label.

SECTION VI - REACTIVITY DATA

<u>Stability</u>	<u>Conditions to Avoid</u>	<u>Incompatibility</u>
Stable	Keep from freezing.	(Materials to Avoid) Strong oxidizing agents.

Hazardous Decomposition Products - May produce fumes when heated to decomposition, as in welding or fire. Fumes may contain CO, CO₂, Hydrocarbons and other products of combustion.

Hazardous Polymerization - Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

SARA Title III

302 - No

304 CERLA - No

313 - No.

RCRA-No.

Steps to be Taken in Case Material is Released or Spilled

Limit spread of leak or spill. Ventilate the area. Avoid falls as the floors may become slippery when the product is spilled. Wear approved respiratory protection. Wear suitable protective clothing, gloves and eye / face protection. Soak up with an inert absorbent material like sand or earth and pick up waste material. Put in a sealed approved container. Keep material out of sewers, drains and bodies of water. The product is not considered a hazardous waste under current federal RCRA requirements.

Reportable Quantity - N/A TPQ (Lb.) - N/A

Regulations - WHMIS, SARA, State and Province.

SECTION VIII - SAFE HANDLING AND PROTECTION INFORMATION

Ventilation: Use local exhaust ventilation to control mists or vapors generated when using this product. Ventilation must be adequate to keep exposure below regulated limits as noted in section II.

Respiratory Protection: Appropriate respiratory protection should be selected by a qualified person if exposure is expected to be excessive.

Protective Gloves: Rubber Gloves, chemically resistant.

Eye Protection: Wear safety glasses, goggles or face shield.

Other Protective Equipment: Wear suitable protective clothing. Remove and wash contaminated clothing before re-use. A source of clean water shall be available for washing eyes and skin.

Hygienic Practices: Wash hands before eating , smoking or using washrooms. Smoke only in designated areas.

SECTION IX - SPECIAL PRECAUTIONS

1. Keep out of reach of children.
2. For professional and industrial use only.
3. Do not handle until manufacturer's safety precautions have been read and understood.
4. Use only with adequate ventilation.
5. Do not take internally.
6. Avoid contact with eyes and skin. Liquid penetrates leather and shoes causing delayed burns.
7. Wash thoroughly after using. Practice safe hygiene principles.
8. Store between 50 - 100 °F. Keep the containers tightly closed after each use.
9. Additional Technical data Sheets and /or M.S.D.S.'s are available upon request.

THE RECOMMENDATIONS AND INFORMATION PROVIDED HEREIN ARE BELIEVED TO BE ACCURATE AS THE DATE HEREOF. HOWEVER, SUCH INFORMATION AND RECOMMENDATIONS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND AND S.T.A.R., INC. DISCLAIMS ALL LIABILITY OR LEGAL RESPONSIBILITY FOR USE AND RELIANCE UPON THE SAME.
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