



## *SEALCOATING FOR AIRPORT PROJECTS*

### **FAA SPECIFICATIONS COMPLIANT**



*The very **first** product of its kind in our business.*

### **STAR AVIATOR;**

- Far superior in performance than conventional mix designs where rubber is mixed on the job.
- Meets and/ or exceeds FAA performance tests & Specs.
- STAR AVIATOR contains FAA required rubber. No on the job blending of rubber latex and excessive amounts of water.
- Minimal time needed for sealer preparation.
- No on-the-job inspection (for rubber amounts) is needed.
- Pre-shipment certification for FAA performance tests issued by STAR.
- Independent lab test certification.



# STAR AVIATOR

## SEALCOATING FOR AIRPORT PROJECTS SPECIFICATION: FAA P-627

### GENERAL DESCRIPTION

**STAR AVIATOR** is an outstanding sealer that is dramatically superior to the conventional FAA mix design sealers. **STAR AVIATOR** as supplied contains the rubber per FAA specifications. The rubber is hot blended during the manufacturing process. The superiority in performance has been established in field performance and by independent testing laboratories.

### HIGHLIGHTED BENEFITS

#### STAR AVIATOR, SEALCOATING FOR AIRPORT PROJECTS;

1. **Is a unique product with unconventional technological approach.** No similar products in the industry.
2. **Has far superior performance** to the conventional FAA, mix designs.
3. **Allows mix design control-** Rubber is the most critical component in FAA mix designs. Factory blending of the rubber in **STAR AVIATOR** assures the accuracy of the mix.
4. **Certified** to meet and/ or exceed FAA specifications.
5. **Is Cost Effective &** performs better than mix designs containing much higher rubber latex e.g. at 7% and 10% levels.
6. **Savings in Labor Costs.**

Better performance with STAR AVIATOR

- In fewer coats,
- No need for special equipment, e.g. drag box, etc.
- Time saved by not adding rubber on the job.

### APPLICATION NOTES

**STAR AVIATOR**, is applied using conventional methods, spray, squeegee, brush, etc.

Consult FAA P-627 Specification for details.

**Dilution** -Max 20% by volume on the amount of concentrated STAR AVIATOR

**COMPOSITION OF MIXTURE**  
Using STAR AVIATOR

Sealcoat Type	STAR AVIATOR	WATER	AGGREGATE	APPLICATION OF THE MIX.
	GALLONS	GALLONS	LBS.	GAL/SQ.YARD
RUBBERIZED SAND SLURRY	100	20 max.	300-800	0.07-0.14
RUBBERIZED EMULSION	100	20 max.	None	0.07-0.11

**PRECAUTIONS**

**Keep out of reach of children**

Follow all safety instructions for handling and storage.

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

Keep the partially used containers tightly closed.



## CERTIFICATION STAR AVIATOR'S COMPLIANCE TO FAA P-627

July 7, 2005

To whom it may concern

Ref. : \_\_\_\_\_

This is to certify that STAR AVIATOR, Batch no. \_\_\_\_\_, dated \_\_\_\_\_, manufactured by Paving Maintenance Supply, Inc. Edmond, OK plant, meets and or exceeds the requirements of FAA P-627, which are listed below:

Properties	P-627 Spec.	Test Data	Comments
1. Brookfield Viscosity	Visual Compatibility 10-90 poise	Material is compatible 48 poise	Passed Passed
2. Scuff resistance	>100 in-Lbs. >100 in-Lbs.	8 hrs. - 165 in-Lbs. 24 hrs. - 175 in-Lbs.	Passed Passed
3. Freeze-Thaw % cycles 10cycles	Cracking <1 <3	0 0	Passed Passed
4. Adhesion	Loss of adhesion	Rating=5A	Passed
5. Fuel resistance of One Composite coat	Fuel Penetration Loss of adhesion	None None	Passed Passed

Please contact the undersigned, if you have any questions.

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

A handwritten signature in black ink, appearing to read "Girish C. Dubey".

Girish C. Dubey  
President



**soil and materials engineers, inc.**

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February 26, 2002

Mr. Gurish Dubey  
STAR, inc.  
1400 Walcutt Road  
Columbus, OH. 43228

Re: Coal Tar Sealer Mix Design  
FAA P-625  
Columbus, Oh.  
SME Project No. PP 40879

Dear Mr. Dubey:

We have completed the Coal Tar Sealer Mix Design you requested using the blended coal tar and latex, sand and water samples we received. The mixture was prepared using the FAA P-627 procedure you transmitted to us. We understand the sample of sealer we received was comprised of coal tar emulsion and latex additive added at a rate of 4% by volume. We blended the mixture with aggregate and the water sample we received. The materials were combined and tested in accordance to the FAA P-627 specifications. The mix design and test results completed to date are as follows:

**Mix Design**

Material	Proportion	Specified
Coal-tar Emulsion	100 gallons	100 gallons
Mix Water	20 gallons	65 gal. max.
Latex Additive	4 gallons	3-6 gal.
Sand Aggregate	300 pounds	300-800 LBS.

Test Property	Test Results	Criteria
Brookfield Viscosity	Materials appear compatible 44.4 poises	Visual Compatibility 10-90 poises
Scuff Resistance	8 hrs. 165 in-LBS. 24 hrs. 175 in-LBS.	>100 in-LBS. >8 hr Torque
Freeze Thaw	5 Cycles 0 10 Cycles 2	1 Max. 3 Max.
Adhesion	5 A	5 A
Fuel Resistance	No Penetration	No Penetration



Detroit  
Bay City  
Kalamazoo  
Lansing  
Toledo  
Grand Rapids

Consultants in the geosciences, materials, and the environment

Mr. Gurish Dubcy  
STAR, Inc.  
February 26, 2002  
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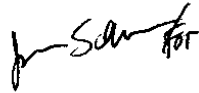
The materials used in the mix design were the products you submitted for our testing.

Based on the FAA P-627 criteria, all materials and mix properties as reported to date, meet the FAA P-627 criteria.

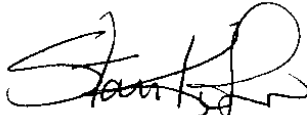
If you have any questions regarding these test results please do not hesitate to contact us.

Very truly yours,

**SOIL AND MATERIALS ENGINEERS, INC.**



Thomas M. Powell  
Materials Consultant



Starr D. Kohn P.E.  
Vice President

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**MATERIAL SAFETY DATA SHEET**



**STAR AVIATOR**  
**SEALCOATING FOR AIRPORT PROJECTS**  
**SPECIFICATION: FAA P-627**

**Manufacturer:**  
S.T.A.R., INC.  
1150 Milepost Drive  
Columbus, Ohio 43228

**Emergency Phone No.**  
Information Phone No.  
Date Of Preparation  
Date Supersedes

**CHEM-TEL 800-255-3924**  
800-759-1912  
July 24, 2002

SECTION I - IDENTIFICATION

**Product Name:** STAR AVIATOR- Sealcoating for airport projects.  
**Chemical Family:** - Refined Tar Pitch Emulsion H.M.I.S  
**Chemical Name:** - Proprietary Health = 1  
**Prepared by:** - G.C. Dubey Fire = 1  
Reactivity = 1

SECTION II- INGREDIENTS

Ingredients	CAS NO.	WT%	Exposure Limits	
			OSHA PEL	ACGIH TLV
<u>Hazardous Ingredients</u>				
Refined Tar Pitch	65996-93-2	27-29%	0.2 mg/m3 (Volatiles)	0.2 mg/m3 (Volatiles)
Listed in SARA Title III, Section 313- No.				
STEL	- N/A*			
LC 50	- N/A			
LD 50	- N/A			
<u>Other Ingredients</u>				
Ethoxylated Amine		1 %		
Specialty Polymers	Proprietary	4-5%	N/D	N/D
Clay	1332-58-7	18-20%	N/A	10mg/m3 (dust)
STEL	- 5 MG/M3 (DUST)			
LC 50	- N/A			
LD 50	- N/A			
Water	7732-18-5	49-50%	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			

\* N/A = NOT AVAILABLE OR APPLICABLE

Total weight percentage of all the listed ingredients could be below 100, indicating other unlisted ingredients that 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>	<u>Vapor Density</u>	<u>Appearance</u>
Over 212 F	(mm Hg) approx. 25	(Air=1) 1	Dark Brown Liquid with Refined Tar odor.
<u>Evaporation Rate</u> (Water=1)	<u>Specific Gravity</u>	<u>pH</u>	<u>Freezing Point</u>
1	1.20 - 1.25	7.00-8.00	32 Deg F/ O Deg C
<u>Miscibility</u>	<u>Threshold Odor</u>	<u>Water/Oil Dist Co-eff.</u>	
Dilutable with water	ppm- N/A	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	<u>LEL</u> N/A	<u>UEL</u> N/A
<u>Combustion Products</u>	<u>Extinguishing Media</u>		
CO, CO2, Hydrocarbon compounds	Foam, dry chemical, CO2		

**Special Fire Fighting Procedures:** Cool exposed containers to prevent steam pressure build up. Wear self-contained breathing equipment.

**Unusual Fire and Explosion Hazards:** Containers may rupture due to steam pressure build-up.

<b>Explosive Power</b> N/A	<b>Burning Rate</b> N/A	
<b>UN/NA/PIN#</b> N/A	<b>Static Sensitive</b> NO	<b>Impact Sensitive</b> NO

### SECTION V- HEALTH HAZARD DATA

**Threshold Limit Value** - 0.2 mg/ m3, refined tar pitch volatiles.

**Routes Of Entry-** Skin, eyes, inhalation, ingestion.

**Effects Of Overexposure** - Acute: YES                      Chronic: YES

**Eyes** - Overexposure of vapors can cause eye irritation, burning, redness and/or corneal changes, which in absence of recommended first aid may result in severe burns.

**Skin** - Contact with skin can result in irritation which when accentuated by sunlight may result in photo toxic skin reaction (similar to sunburn). Prolonged and/or repeated contact with the product or volatiles may result in more serious skin disorders including cancer.

**Inhalation-** The product has very low vapor pressure, therefore, harmful effects are not anticipated. Chronic inhalation overexposure to vapors. Repeated and/or prolonged contact to high levels of vapor concentration may result in respiratory problems, central nervous system (CNS) effects, cardiovascular collapse.

**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.

**Conditions aggravated by exposure and additional health hazards:** The test results reported in Koppers Industries, Inc. publication "Using Refined Tar Emulsion Safely" conclusively establish that emissions during the manufacturing, as well as application, of sealcoatings based on refined tar are well below the OSHA exposure limits. Refined tar is a complex mixture of thousands of chemical compounds, a majority being closed ring, polynuclear aromatic compounds (PNAs) which range from single ring structure to multiple (30-40) rings in their molecular structure. According to NTP, IARC, or OSHA, some of these PNAs have been found to induce cancer in animals under laboratory conditions.

Cancer warning statements for materials derived from coke oven tar, which includes refined tar RT-12, are based primarily on crude (unrefined) tars. No data has been established on refined tars or sealcoatings based on refined tars as potential carcinogens. The cancer warnings are, therefore, affixed on all refined tar derived products, due to the lack of specific data on these products.

Respirable crystalline silica, also used in conjunction with this product is a suspected carcinogen, however, no exposure is expected through the use of this material. This product and sealcoatings in general, have not been tested for chronic exposure effects.

**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.

Inhalation- Move to fresh air, administer oxygen and call a physician.

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

## SECTION VI- REACTIVITY DATA

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

<b>Hazardous Decomposition Products</b>	- N/A
<b>Hazardous Polymerization</b>	- Will not occur.
<b>Conditions to Avoid</b>	-N/A

## SECTION VII- SPILL OR LEAK PROCEDURES

<b>SARA Title III</b>			
# 302 - No	# 304 -No	# 313 - No.	RCRA-No.

## STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

**Ventilate the area. Wear approved respiratory protection.** Wear suitable protective clothing, gloves and eye / face protection. Contain and pick up waste material. Put in a sealed approved container. Dispose of in accordance with federal, state, and local regulations.

**For Small Spills:** Absorb with an inert material and place in containers.

**For Large Spills:** Contain material and pump into tanks or other suitable containers. Spills over 45 gallons should be reported to national, state and local emergency response agencies. The telephone number for the National Response Center is 800-424-8802.

Do not flush into sewers or bodies of water. The material will suffocate fish until it settles to the bottom.

#### WASTE DISPOSAL

***This material is not a hazardous waste in either liquid (emulsion) form or as a dried material, according to TCLP (Toxic Characteristic Leaching Procedure) results (EPA method 1311). Recommended disposal by land filling (dry) or incineration shall be selected in accordance with the local, state, and federal regulations.***

**Reportable Quantity** - N/A  
**Regulations** - WHMIS, SARA, State and province.  
**Hazardous Waste** - N/A  
**TPQ (lb.)** - N/A

### SECTION VIII- SAFE HANDLING AND PROTECTION INFORMATION

**Ventilation:** Use local exhaust ventilation to control mists or vapors generated when using this product.

**Special-** N/A Other- N/A

**Respiratory Protection:** Use only with adequate ventilation. If ventilation is inadequate, wear approved respiratory equipment.

**Protective Gloves:** Rubber Gloves, chemically resistant.

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

**Other Protective Equipment:** Wear suitable protective clothing.

**Estimated LD50, MG/KG:** N/A  
**Estimated LC50, PPM:** N/A  
**Sensitization:** N/A  
**Irritants:** YES

### 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.
7. Wash thoroughly after using. Practice safe hygiene principles.
8. Additional Technical Data Sheets and/or M.S.D.S.'s are available upon request.

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