ArrMuls® 201

Anionic (-) Rapid-Setting Emulsifier

Chemistry for Better Chip Retention and Aggregate Coating

ArrMuls 201 is an asphalt emulsifier chemical used to produce both anionic rapid-setting (RS-2) chip seal and anionic medium-setting (MS-2) mixing grade emulsions conforming to typical specifications, including AASHTO M-140/ASTM D-977. A preventative maintenance application, chip seals provide a skid-resistant wearing surface to the existing pavement, sealing cracks and the underlying pavement, protecting it from further deterioration.

Applications:

RS-2 Chip Seal

MS-2 Cold-Mix Paving and Stockpile Mixes

Features and Benefits

Better Chip Retention

Greater asphalt film thickness reduces aggregate loss after sweeping and during service life

Better Aggregate Coating

Promotes easy coating and greater asphalt film thickness in cold-mix applications with challenging aggregates, even while damp and dusty

Better Emulsion Viscosity Stability

Chemistry engineered for stable viscosity through time

Easy Handling

Low viscosity, no need to heat in storage, for pumping, or during soap solution production

Use ArrMuls 201 When You Need:

- More durable chip seals with less chip loss
- Better degree of aggregate coating in cold-mix paving and stockpile mix applications

Compatibility

Asphalt

Easily emulsify all asphalt types including paraffin-rich asphalt

Rejuvenators

Compatible with common rejuvenating agents

Solvents

Compatible with common petroleum distillates used in MS-2 formulations

Polymer Modifiers

Compatible with anionic styrene-butadiene rubber (SBR), natural and acrylic latexes

Aggregates

Compatible with aggregates of various types, including RAP, granite, gneiss, trap rock, diabase, basalt, limestone, slag and silica sand, even when damp and/or dusty

Usage Recommendations

Typical Emulsion Formulation:

	ArrMuls 201, % bwe	Sodium Hydroxide (NaOH)	Petroleum Distillate, % bwe
RS-2	0.25 - 0.40	To soap pH of 11.5 - 12.0	-
MS-2	0.5 - 1.0	To soap pH of 11.5 - 12.0	6.0 - 12.0

Typical total residue of RS-2 emulsion is 62 – 64%.
Typical total residue of MS-2 emulsion is 65 – 68%.
Percentages are by weight of emulsion (bwe).

Road Science®
Division of ArrMaz

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roadscience.net

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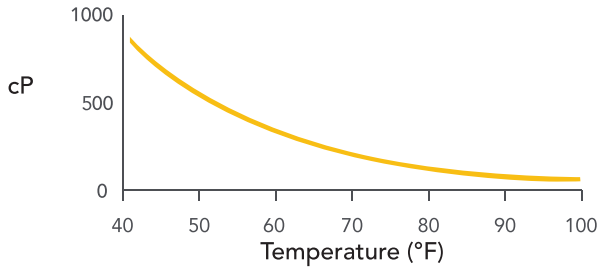
Availability

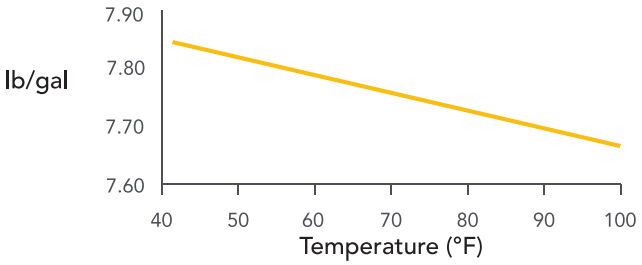
ArrMuls 201 is available for shipment in bulk by tank truck. Packaged quantities are available in 275 gal/1,041 L IBC totes (2,000 lb/907.2 kg net weight) and 55 gal/208 L metal drums (400 lb/181.4 kg net weight).

Physical Characteristics

Property:	Description:
Appearance, 77°F (25°C)	Dark Liquid
Odor	Resinous
Density, 77°F (25°C)	7.73 lb/gal (0.93 kg/L)
Viscosity, 77°F (25°C)	250 cP
TSCA Inventory	Listed
DSL Inventory	Listed
C.A.S. Number	Proprietary

The density and viscosity data reported are typical and not specifications. Typical ranges for density and viscosity values are ± 2% and ± 20%.





Handling and Storage

Always handle ArrMuls products in accordance with Safety Data Sheet (SDS) and proper safety procedures. Avoid product contamination with other materials. Do not heat product in excess of 140°F (60°C) for prolonged periods. Recommended product handling temperature range is 40–120°F (4–50°C).

Technical Support

To request additional product information, contact your regional Road Science representative. You can also contact us at 918-960-3800 or customerservice@roadscience.net, or visit our website at roadscience.net.

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