

PRODUCT DATA BULLETIN

Description and Typical Applications

INDULIN MQK-1M is a unique, cationic quick-set emulsifier with multiple amino groups that is synthetically derived from MeadWestvaco fatty acids via a proprietary process. The multiple amino groups provide a buffering effect of the emulsion which aids in improving adhesion to a wide variety of aggregates.

Emulsions made with INDULIN MQK-1M provide:

- Emulsion-to-aggregate compatibility
- Excellent storage stability
- Good mixing

Typical Properties

Physical form	Liquid
Density, lb/gal, 25°C (77°F)	8.51
Flash point, Pensky-Martens, °C (°F)	190 (374)
Pour point, °C (°F)	12 (54)
Specific gravity, 25°C (77°F)	1.02
Viscosity, cps, 25°C (77°F)	9,700

Use of INDULIN MQK-1M

Typical Formulation by Weight

Asphalt, %	63.0
INDULIN MQK-1M, %	1.2-1.8
Water, %	to 100.0
Hydrochloric acid	to pH 1.5-2.5

Note: INDULIN MQK-1M should be added to warm water containing a mineral acid such as hydrochloric acid (HCl) and agitated until completely dissolved. The amount of hydrochloric acid required depends on the concentration (Bé) of the HCl. Because of the buffering effect of INDULIN MQK-1M, agitation should be continued for about 30 minutes after the desired solution pH is obtained. The pH should then be checked and adjusted, if necessary, before introduction into the colloid mill.

Formula Modifications

Certain aggregates may require a "tailored" formulation to assure proper performance of the slurry seal. This can be obtained by the addition of Portland cement or hydrated lime to the aggregate at a dosage level of 0.5%-1.0%, based on the weight of the aggregate. Both will shorten the set time of the mix and lengthen the mixing time of the slurry. An increase in the mixing time can also be obtained by the

MeadWestvaco Corporation

Asphalt Innovations
PO Box 118005
Charleston, SC 29423-8005
Tel: +1 843 740 2236
Fax: +1 843 740 2147
Email: asphalt.innovations@meadwestvaco.com
Website: <http://www.asphalt-innovations.com>
©2002 MeadWestvaco Corporation

Safety: Always refer to the Material Safety Data Sheet for detailed information on shipping, handling, storage, and use.

Important: The information provided herein is believed to be accurate and reliable, but is presented without guarantee on the part of MeadWestvaco Corporation. Further, nothing contained herein shall be taken as an inducement to violate any patent rights.

addition of aluminum sulfate (alum) at dosage levels from 0.015%-0.035%, based on the weight of the aggregate. The alum should be dissolved in the water prior to addition in the pre-wet water tank. If necessary, INDULIN MQK-1M can be used to retard the break or cure time in field applications by adding it at levels of 0.1%-0.3% based on the weight of the aggregate, to the pre-wet water or to the solution.

Storage

INDULIN MQK-1M is typically stored at ambient temperatures 20-25°C (68-77°F). Mild heating may be used to facilitate pumping, but INDULIN MQK-1M should **not** be stored at or heated to temperatures in excess of 60°C (140°F) for a prolonged period.

Shipping

Freight Classification

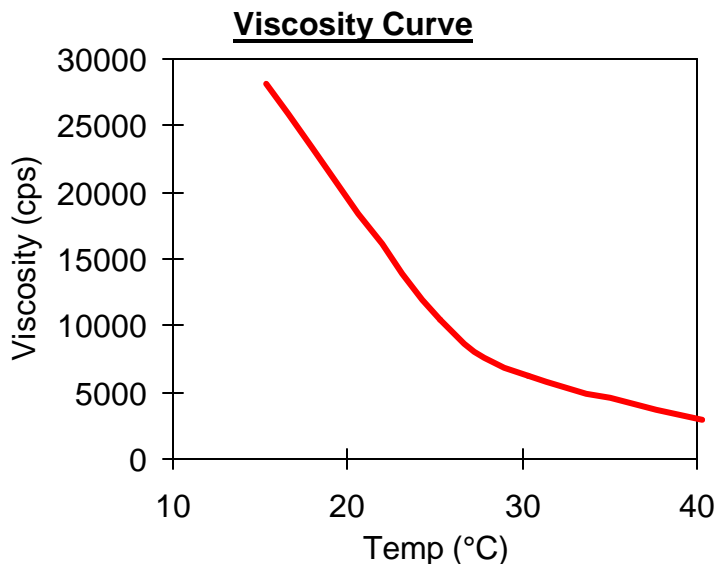
Toxic liquids, organic, n.o.s.

Availability

Tank car, tank truck, 55-gal. non-returnable metal drums [440-lb. (199.6-kg.) net weight]

Shipping Point

Charleston, South Carolina and South Gate, California, USA



INDULIN MQK-1M

CAS Registry No.: Listed in TSCA Inventory as Confidential

Revised April 1, 2005

MeadWestvaco Corporation

Asphalt Innovations™

PO Box 118005

Charleston, SC 29423-8005

Tel: +1 843 740 2236 Fax: +1 843 740 2147

E-mail: asphalt.innovations@meadwestvaco.com