

SoyLei Innovative Products introduces SIP 1111, a distinctive soybean oil-based additive with zero VOCs that facilitates the inclusion of up to 50% Recycled Asphalt Pavement (RAP) in asphalt pavements. SIP 1111 achieves this by chemically rejuvenating the functionality of aged binders within the recycled asphalt, effectively binding with the asphalt to diminish asphaltenes aggregation and decelerate oxidation. This enhances the asphalt's resistance to cracking significantly. As a result, SIP 1111 stands out as an eco-friendly option that offers a highly efficient and cost-effective alternative to conventional rejuvenators in the asphalt industry. Marketed under SIP-1111-1p, this product can also be used in polymer modified asphalt to increase the recycled content, increase the rate of polymer dissolution, and provide improved binder performance.

SIP 1111 CHARACTERISTICS

OXIRANE OXYGEN	2.6 %
IODINE VALUE	1.5%
ACID VALUE	0.5% max
COLOR (APHA)	150 max
MOISTURE	0.10 max
MOLECULAR WEIGHT (APPROX.)	1000
SPECIFIC GRAVITY	0.947
CAS NO.	8013-07-8

PRODUCT USES:

- Compaction Aid
- Hot mix additive
 - Cracking resistance
 - Rutting resistance
 - Aging resistance
 - ΔT_c Performance

PACKAGING SIZE:

- 55-gallon Drums
- 275-gallon Tote
- Tanker (45,000 lbs.)
- Rail (185,000 lbs.)

STORAGE AND HANDLING:

Shelf Life: 2 years with proper storage and handling.

Materials for Construction: Compatible with carbon steel, 304/316 stainless steels, polyethylene, PVC, CPVC. Temperature limits for non-metallic materials should be considered.

Storage Conditions: Ambient temperatures are ideal. Avoid prolonged storage above 180°F.

Heating Methods: Use low-pressure steam (<15 PSIG) or electric blanket heating. Keep surface contact temperature with SIP 1111 below 250°F.

Temperature Tolerance: Short-term exposure to 250°F is acceptable, but long-term exposure leads to polymerization.

Pump Selection: Centrifugal, gear, or diaphragm pumps suitable.

ADDITIVES PERFORMANCE IN ASPHALT:

Location	Dose %	Base PG	RAP %	Modified PG	Ideal CT	IFIT	DCT (°C)	Rut @20k
Indiana	0	64-22	25	70-22	85	1.85	375 @ -22	2.2 mm
Indiana	4.3	64-22	40	64-28	110	12.6	506 @ -22	5.2 mm
Iowa	0	58-28	45	70-22	77	10.4	332 @ -28	-
Iowa	2.8	58-28	45	64-28	114	14.2	477 @ -28	-
Minnesota	0	58-28	30	64-28	30	8.0	305 @ -28	-
Minnesota	0	58-28	40	58-28	30	6.5	300 @ -28	-
Minnesota	4.2	58-28	40	52-34	70	15	350 @ -28	-

