## **FISHSTONE**

## **SRA-101**

## SHRINKAGE REDUCING ADMIXTURE FOR CONCRETE

**PRODUCT DESCRIPTION:** SRA-101 is a specialty liquid admixture specifically formulated to reduce drying shrinkage in concrete mix designs. Drying shrinkage of concrete is known to be associated with the surface tension of the mix water and the related capillarity they form when curing. SRA-101 works by lowering the surface tension of the water and reducing the corresponding strain forces pulling on the water during drying.

**BENEFITS:** TYPICALLY REDUCES ULTIMATE SHRINKAGE VALUES BY UP TO 50% DEPENDING ON THE CEMENT TYPE USED... REDUCES RELATED CRACKING FROM CHEMICAL OR DRYING SHRINKAGE...INCREASES LONG TERM DURABILITY

**COMPOSITION:** Solution of modified propylene glycols with hydration aids. SRA-101 does not contain any calcium chloride or intentionally added chlorides that would initiate or promote corrosion of reinforcement steel, or contribute to efflorescence.

PHYSICAL PROPERTIES at 70°F (21°C):	APPROXIMATE VALUES:
Weight per gallon (lbs):	8.71 +/- 0.2
pH:	7.00 +/- 0.2
Color:	Clear pink liquid
Viscosity-Brookfield:	100 cps +/- 10 cps

**TECHNICAL DATA:** SRA-101 is formulated to comply with ASTM C-157 specifications.

**RECOMMENDED ADDITION RATES:** Typical dosages in standard mix designs for the SRA-101 are between 10-30 ounces (300-900ml) / 100lbs (45kg) of cement for maximum effectiveness. The exact quantity of SRA-101 required will vary due to differences in the concrete materials or pour conditions. These include but are not limited to: ambient and mix temperatures, cement, sand and aggregate gradation and ratio, additional admixtures in the mix, slump, water content, and temperature, mix time and mixer type, means of conveying and placing, as well as vibration method and duration. It is recommended a trial mix be conducted with actual production materials in order to determine the optimum dosage for specific set time or strength requirements. Once this dosage is established, frequent checks should be made during the placement of the concrete to ensure related air entrainment levels and compressive strengths are maintained.

**DIRECTIONS FOR USE:** Additional admixtures, including air entraining agents and superplasticizers used in the concrete mix along with SRA-101 should be added first to establish correct concrete mix uniformity. The pre-measured amount of SRA-101 selected should be added to the reduced batch water if possible to allow maximum dispersion during the mixing process. The recommended minimum mixing time is 90 seconds for ideal dispersion throughout the concrete mix. SRA-101 has a limited plasticizing effect on the mix due to the lowered surface tension, so the required batch water may be lowered accordingly to maintain proper slump and consistency. SRA-101 is compatible and can be used with any cement based materials, as well as with the full range of most chemical admixtures.

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**CAUTIONS:** Since SRA-101 decreases the surface tension of the mix, it will tend to increase the total air content in the mix. Therefore, the dosage of any air entraining agents used should be reduced accordingly to ensure proper air content. SRA-101 is designed for use in warm to moderate weather conditions, and is not recommended for cold weather concrete pours (below 50°F). SRA-101 may also reduce the final compressive strengths of the mix design from 0 to15% depending on the materials used. There are typically slight retardation effects on finishing or final set times of approximately 30 minutes at the dosages suggested, and the SRA-101 will correspondingly extend slump life for this time frame. SRA-101 is fully effective and compatible in concrete with other admixtures including chloride and non-chloride based accelerators. However, each admixture should be added separately to the concrete mix, and it should be noted that any separate admixture addition may alter the amount of air entrainment obtained. SRA-101 will freeze at approx. 32°F (0°C), but may be completely restored by thawing above 32°F (0°C) and thoroughly mechanically agitating before use. Do not use pressurized air for mixing or agitation. SRA-101 should be stirred before using if the material has set for an extended period (3-6 months).

**WARNINGS:** Avoid contact with skin and eyes. Wear protective clothing and safety glasses during application. Keep away from food and drink. Do not take internally. Refer to product M.S.D.S. (Material Safety Data Sheet) for further health and safety information. FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN.

**H.M.I.S. CODES:** HEALTH = 1, FLAMMABILITY= 0, REACTIVITY = 0, PERSONAL PROTECTION = C (GLOVES, GOGGLES, APRON)

SHIPPING NAME: Concrete Admixture –Waterbased -Not regulated

SHIPPING CLASS: ITEM 33880, SUB 2, LTL 55

**STORAGE:** Ideal storage is between 60°F to 80°F( 15 °C to 27 °). Keep from freezing.

**SHELF LIFE:** 1 year stored properly. Depending on storage conditions, the shelf life may be extended.

PACKAGING: 1 gallon, 5 gallon pails, 55 gallon drums, 265 gallon containers.

**LIMITED WARRANTY:** This product is warranted to be of merchantable quality when used according to the instruction herein. It is not warranted to be suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of the product as purchased, if found to be defective upon inspection by the manufacturer. This limited warranty is issued and accepted in lieu of all other expressed warranties and explicitly excludes liability for consequential damages. Buyer assumes all risk and liability resulting from the use of this product.

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