Zinc Bromide/ Calcium Bromide/ Calcium Chloride Brine System

Zinc Bromide/Calcium Bromide/Calcium Chloride ($ZnBr_2/CaBr_2/CaCl_2$) Brine Systems are three-salt solutions used for clear-brine workover and completion operations which require high density fluids ranging from 15.2 to 19.2 lb/gal (1821 to 2301 kg/m³). The desired density and crystallization point is obtained by blending 15.1 lb/gal (1809 kg/m³) calcium chloride/calcium bromide brine with 19.2 lb/gal (2301 kg/m³) calcium bromide/zinc bromide brine.

TYPICAL PHYSICAL PROPERTIES

Physical appearance	Clear-to-amber liquid
pH (Neat)	1.8 – 6.0
Clarity	Clear, <5 NTU
Compatibility	Miscible with other calcium/zinc brines and water

APPLICATIONS

Zinc Bromide/Calcium Bromide/Calcium Chloride Brine Systems are used for clear-fluid workover and completion operations which require densities from 15.2 to 19.2 lb/gal (1821 to 2301 kg/m³). This brine provides inhibition, preventing the hydration and migration of swelling clays, and can be used for packer fluids. It can be used in the formulation and density control of various brine blends. Fluids can be formulated with various crystallization points and are available for special applications and winter use. Use gentle agitation when mixing for thorough dispersion.

Note: *Use the Blending Tables to obtain the desired density and crystallization point.*

TOXICITY AND HANDLING

Bioassay information is available upon request.

Handle as an industrial chemical, wearing protective equipment and observing the precautions as described on the Material Safety Data Sheet (MSDS).

Also observe the health hazard information and emergency and first aid procedures described on the MSDS.

Contact of zinc bromide solutions with the eyes may cause some permanent vision loss. These effects may include damage to the cornea or internal injury. In case of eye contact, flush with large quantities of clean water and immediately seek medical attention. A single, short skin exposure to these brines can cause considerable irritation. Prolonged exposure can result in a burn. If skin contact occurs, immediately wash the affected area with soap and water. Remove contaminated clothing and wash thoroughly before reuse. Do not continue to wear contaminated clothing. Avoid inhalation or ingestion.

CAUTION! Zinc bromide solutions have a low pH and must be handled in a manner which prevents all direct contact. Zinc bromide is a CERCLA Hazardous Substance with a Reportable Quantity of 1,000 pounds zinc.

PACKAGING AND STORAGE

ZINC BROMIDE/CALCIUM BROMIDE/CALCIUM CHLORIDE BRINE SYSTEMS are packaged in bulk liquid quantities.

Store in appropriate corrosion-resistant brine containers and keep closed and firmly sealed. It is a concentrated hygroscopic salt solution which will absorb water from the air, reducing density if not properly stored.

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