PHOS-CHEK
Fire Retardant, Class A Foam & Gel

ICL Performance Products LP

PHOS-CHEK ® AQUAGEL-K MIXING, STORAGE AND USE INSTRUCTIONS.

- ***DESCRIPTION & GENERAL CONDITIONS***

Phos-Chek ® AquaGel-K is a dry granular powder, which when mixed with water forms a gel mixture.
Depending on the concentration and water quality; it can be anything between a slightly thicker-than-water appearance to a coagulated mass.
All gel products, like a majority of chemicals are sensitive to water quality. The harder or more contaminated the water – the more product will be required.
Furthermore, chemical impurities or contaminates, such as retardant salts, water purification chemicals or saline water effect the final quality of mix.
It is recommended that Phos-Chek ® AquaGel-K be mixed in a ratio of between 3 – 5 lbs per 100 gallons of water, where 3 lbs used for soft/pure water to 5lbs used for hard or slightly contaminated water. This should give an overall *Mix Ratio* of 0.5%.
The mixture may be kept for periods of time, without degradation, provided it is kept in a clean closed tank or vessel (a tank lid is adequate). However, the tank or vessel must be UV protected to avoid degradation from sunlight.
There will be no separation from the water, even after long periods; however, there may be a small layer of water on the surface; which is perfectly normal, and caused by free water in the mixture.
The unused granular powder should be kept in it's original airtight container at all times, because Phos-Chek ® AquaGel-K is a hydrophilic compound, which will seek out water vapor from the atmosphere or surrounding environment.
Water temperature is not a significant factor; however, the final mixture can be expected to take longer to cure in colder water.
As mixing Phos-Chek ® AquaGel-K with water is a physical reaction, there is no evolution of heat, gases or other harmful materials.

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It should be remembered when calculating required mix, that the mixture will ***shear*** (become less thick) each time it is passed through a pump; therefore it is recommended to use an air spurge to move the curing mixture within the tank or vessel.
Although harmless, follow the precautions adhered to the Material Safety Data Sheets.

- ***BASIC EQUIPMENT RECOMMENDATIONS***

Tank or Closed vessel, with lid, of required capacity.
Gel Sifter (manual operation) *or* Gel Hopper Mixer with Mixing Pump
Pump (Discharge) (*see: Phos-Chek Products Guide*)
Air Pump or Air take-off facility with air wand (See *special note* below)
Connecting Pipework, Fire Hoses and Nozzle

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- ***MIXING***

✓ Choose the concentration required for the task required, measure out required quantity of Phos-Chek ® AquaGel, in view of the quantity of water.
✓ Ensure that the tank or vessel is clean and free from other chemicals or contamination, before commencing with a mix.
✓ Always add Phos-Chek ® AquaGel-K to water; never water to the dry granular powder.
✓ Always use fresh clean water
✓ Allow approximately 15% - 20% of fresh water before starting to add Phos-Chek ® AquaGel-K to the tank or vessel. This is to avoid a gel mass to accumulate at the bottom of the storage tank or vessel.
✓ Start air spurge system.
✓ Add the dry granular gel product by:

either

(manual operation) – administer measure quantity of product into Gel Sifter

or

(by hand) - slowly with a sifting movement, to avoid clumps or gel balls forming) whilst filling the tank or vessel, as close to the water intake as possible; so that the Phos-Chek ® AquaGel-K is carried away in the water stream, allowing a more even distribution of the product.

or

(Gel Hopper Mixer) – administer measure quantity of product into hopper

✓ Ensure the gel product is completely added before the water level reaches 80% tank capacity.

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- ✓ Never add more dry product after full tank capacity is reached; this will not blend satisfactorily and introduce coagulated lumps into the final mixture.
- ✓ Once the mixture is completed; run the air spurge for 10 minutes, to ensure an even and homogenous mixture.
- ✓ Use, with fire hoses and nozzle, ground engine applications *or* aircraft feed through the pump.

- ***SPECIAL NOTE***

A simple, but effective air spurge system can be made from a length of ½" - 1" white rigid plastic tubing, with $^{13}/_{64}$" - $^{7}/_{32}$" holes drilled at 6" centers; installed approximately 6" from the base of the tank or vessel.
The air holes should be positioned in such a way as to point downwards at a 45^{0} angle, in order to allow the air to interact with the sides of the tank or vessel to create a material flow around the tank or vessel.
This should be connected to a vehicle power air take-off or small air pump system (run at a regulated variable speed).
The use of this method of mixing and during curing, allows for a homogenous mixture to be presented, without the danger of gel balls or areas of over-gelled mixture forming in parts of the tank or vessel; and without the problem of excessive damaging of the final mixture through the pump.

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- ***CONTACT DETAILS***

Please call 1-800-682-3626

For further technical information please visit our website **www.phos-chek.com**.

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