

FACE OFF KV-LITE NEWS

TRIUMPH OVER FIRE

MAGAZINE FROM THE HOUSE OF K. V. FIRE CHEMICALS (INDIA) PVT. LTD.

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In My Own Words...

The Financial Year 2004-05 that passed by was significant in several respects for us.

During the year ended, we have ventured into various activities related to new product launches, sharing our knowledge through Newsletter, expanding our horizons by widening exports to more countries.

While the Financial year has been satisfying, the coming year is going to be equally exciting and we are fully geared to face the new challenges. We are strengthening our research division for new developments.

We thank all our customers, suppliers and employees for their support. Our endeavour shall be to serve with renewed enthusiasm and commitment.

We set ambitious goals to pursue with customers interest as the prime focus.

After an interval of 5 years, Interschutz the leading international event for fire prevention, security and rescue will take place at Hannover, Germany from 6th to 11th June 2005.

As we are the participants from India, we take immense pride and pleasure to welcome one and all to visit us at Hall No. 013, Stand No. B 54.

This is a unique opportunity to witness the latest trend and bring home new ideas. It's a rewarding productive platform for knowledge gain.

Recently in April, fire service week was celebrated all across the country, a tribute paid to all fire professionals for their selfless service and also pledge for safe working.

We wish all our readers and well wishers **FIRE FREE** New Financial Year 2005-06.

Mr. H. M. Sabadra
(Managing Director)

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TIME IS CRITICAL

It's a known fact that if fire is not extinguished within critical time, then it's a blaze. Small flicker turns into volcano i.e. towering inferno.



CLASS OF FIRES	CRITICAL TIME	BLAZE STAGE
A	3-10 mins.	+10 mins.
B	0-3 mins.	+3 mins.
C	0-30 secs.	+31 secs.



As critical time is too short, every second counts in fire emergency.

However, rapid intervention; by the time fire tender arrives at fire scene and system is put in operation, the critical time period phase is already over / has passed.

So invariably small fire turns into total disaster situation.

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New Developments



POWERFUL TOOL

We all know in any casualty first aid makes difference between life and death.

This holds good in case of fire too i.e. if action is swift and extinguishing agent is powerful, then chances of

critical / blaze time phase crossover are minimised and possibility of small fire becoming disaster is reduced.

So first immediate attack must be very effective with guaranteed performance to kill fire instantly.

Extinguishing chemical plays vital role and if same is efficient, then even novice hands will have greater power to face the fire situation with confidence by using first aid powerful portable fire extinguisher. So extinguisher charge i.e. Refill - Dry Chemical has to be of the best type available.

WHICH FIRE CHEMICAL DRY POWDER TYPE?

We know now that powder extinguishment is by interference of flame chain, combustion/oxidation reaction.

Free radicals produced in fire are to be consumed /taken away by free radicals produced by decomposition of dry powder.

Ordinary physically blended powders have only few radicals produced when they decompose in fire zone whereas free radicals produced in large-scale fire are very huge in number, so ordinary dry powder fails to extinguish it.

Free radicals absorption takes place on surface of powder particles. Naturally higher the surface area, faster will be the extinguishment.

Now surface area is inversely proportional to particle size, which means smaller/finer the particle size, larger the surface area.

To achieve smaller particle size, powders must be grind to fine size but then it presents compaction and projection difficulties. Naturally then powder could not be grind to very fine size.

Small surface area with few free radicals produced makes these physically blended SBC, PBC, MAP base powder ineffective in tackling real fire emergency situations.

Research continued to try out different formulations and compounds and efforts finally resulted in the development of new compound called Potassium Carbamate / Potassium Allophonate. It is a chemical reaction product of Urea and Potassium Bi-Carbonate.

DECREPITATION

The Potassium Carbamate compound exhibits a typical property called decrepitation which means in the flame zone it physically breaks / disintegrates into thousands of tiny particles.

Result - surface area in the flame zone multiplies thousands of time.

Each of these tiny Potassium Carbamate particles decompose into free radicals, which are highly reactive.

So combined effect of larger surface area and higher reactivity in the flame zone of Potassium Carbamate powder results in its capacity to remove the free radicals faster than the rate of its production and so fire extinguishes instantly even before flicker of an eye.

In fact, miraculous / magical property of instantaneous and guaranteed flame knock down makes Potassium Carbamate powder distinctly different than all other physical blended powders based on SBC, PBC and MAP.

WHY HIGH RISK INDUSTRIES WORLDWIDE PREFER THIS PRODUCT?

Extensive test and trial were carried out for the comparison of fire fighting efficiency between Sodium Bi-Carbonate, Potassium Bi-Carbonate and Potassium Carbamate powders.

Test analysis has proved that on UL 80 BC rating (200 sq. ft.) fire test, Potassium Carbamate is 13 times more effective to Sodium Bi-Carbonate base powder and 2.5 times more effective to Potassium Bi-Carbonate base powders.



In UL 160 BC rating (400 sq. ft.) fire test, it was found superior to SBC, again 13 times and to PBC 5 times.

When further test were conducted by ICI, UK on a large scale to

UL 480 BC rating (1200 sq. ft.) fire test, it was found no powders based on SBC, PBC have been rated on this fire size.

Analysing the results, high-risk industries across the globe, switched over and now prefer powder based on Urea Potassium Bi-Carbonate Reaction product i.e. Potassium Carbamate powder only.

There is no basis for cost comparison of Potassium Carbamate powders to physical blended powders based on SBC, PBC, MAP; as they will not be able to extinguish the large-scale fires irrespective of the quantity that can be applied.

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SPECIALIZATION



UL LISTED AFFF



FP-AR 3x6, 3x3.



HAZMAT FOAM

KV-LITE FOAM CONCENTRATES

- PROTEIN
- HIGH EXPANSION
- FILM FORMING
- FLUORO PROTEIN
- FLUOROPROTEIN
- AQUEOUS FILM FORMING
- ALCOHOL RESISTANT

Safety Awareness

RECOMMENDATION

Ministry of Home Affairs recommends Potassium Carbamate powder to be used in all high risk Oil & Gas industries for protection of life and property.

Use of Urea Potassium Bi-Carbonate Reaction product powder for Refineries and Petrochemical Complexes is statutory as per OISD

specification and Petroleum Law.

The product is being widely used by many organizations and it is tested, tried and proven during fire emergencies.

We highly recommend use of this Potassium Carbamate base spectacular unique product OLFEX powder, against all fire risks for guaranteed and assured fire control and extinguishment.

FIRE FIGHTING FOAM - STORAGE RECOMMENDATIONS



Laboratory base accelerated ageing test indicate that a shelf life of at least 10-15 years can be expected for synthetic detergent base foams and atleast 5-10 years in case of natural protein base products provided they are stored according to recommendations.

SHIPPING CONTAINERS

Foam concentrate may be stored in its original plastic containers of 20, 30, 200, 1000 Litres capacity. The maximum safe stacking height for 30 Litres plastic drum is 2 high without pallets or 4 high with pallets (2 high per pallet); for 200 litres plastic drums is 2 high (with or without pallets) and for IBCs is 2 high. Plastic drums should not be stored in direct sunlight.

STORAGE TANKS

Foam concentrates are suitable for transferring into bulk storage tank for long-term storage.

MATERIAL OF CONSTRUCTION

Foam concentrates have a neutral pH slightly towards alkaline side and generally no corrosion problems will occur with Stainless steel and plastic storage tanks. Following may also be noted:

- Mild Steel Uncoated: Suitable for use with natural protein-based foam concentrates but not recommended for synthetic detergent based foam concentrates. Ferrous metal ions can poison the foam concentrate leading to reduced fire fighting performance.
- Mild steel coating: Surface preparation and coating should be performed by qualified personnel. Coating with phenolic resins heat cured type is recommended.
- Stainless Steel: 316L and Duplex 2205 grades. Tanks with welded construction should have all joints treated to ensure consistent

properties close to welds.

- Glass Reinforced Plastic (GRP): Fibreglass with epoxy resin. Not recommended for foam systems involving pressure displacement.
- High Density Polyethylene (HDPE) is well accepted. Polypropylene is also okay.
- The use of zinc, galvanized materials, and aluminium in storage tanks, pipework, and machinery handwork, and machinery handling foam concentrates should be avoided.

Gaskets, seals, and bladders may be fabricated from all commonly-used elastomers.

Fittings in foam concentrate pumps and valves may be made from brass, bronze, and gunmetal. Dissimilar metals should either be avoided or a non-conducting gasketing material should be used in the joint.

PIPEWORK

The choice of pipework materials depends on the anticipated contact time with the foam concentrate. For continuous contact the materials of construction same as for storage tanks apply.

EVAPORATION

If foam concentrate is allowed to evaporate freely, the water and solvent in the concentrate will evaporate. To minimise evaporation losses, the concentrate tank should be sealed and pressure vacuum vent installed.

Evaporation will also be reduced by keeping the concentrate tank full. However, an ullage of 5-10% of the tank volume is desired, over which nitrogen layer be maintained at a pressure fractionally above atmospheric pressure.

3-6 mm layer of hydraulic mineral oil may be floated on alcohol resistant foam.

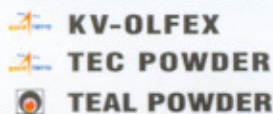
TEMPERATURE

The maximum storage temperature is 49°C (120°F) although temperatures up to 60°C (140°F) are acceptable for short periods.

PREMIX

Storage of premixed solution is generally not recommended for period longer than one year. For Alcohol Resistant Foam premix is not recommended. Degradation will be faster if Extinguishers are not of Stainless Steel or Plastic coated.

SPECIALIZATION



KV-LITE DRY CHEMICAL POWDERS

- SBC STANDARD
- SBC SUPER
- PBC STANDARD
- PBC SUPER
- ABC 50
- ABC 70
- ABC 90

LITE MOVEMENT

Trivia

June 7, 2001, During a fierce tropical storm along the United States Gulf Coast exploded 10 miles (16 kilometers) west of New Orleans lightning had struck the Orion Norco oil refinery. Moments later the world's largest tank fire was born. Soaring over 250 feet (76 meters), spanning 265 feet (80 meters) in diameter, and containing 300,000 barrels of fuel (15 million gallons or 57 million liters), Louisiana had a monster on its hands.

FUN CORNER

STRANGE FACTS

In Tokyo, a bicycle is faster than a car for most trips of less than 50 minutes!

There are more than 10 million bricks in the Empire State Building!
The sentence "The quick brown fox jumps over a lazy dog." uses every letter of the alphabet!

LET US SHARE YOUR JOY

All are invited to send in articles, developments, anecdotes, jokes, messages, poems, photographs or anything that might make an interesting reading or worth sharing with others across the country. It could be also success it could be an escape stories of any of your family members or any other event that you feel is worth letting the world know

E-mail to kvfc@mtnl.net.in

OFFICE HAPPENINGS

- Quote from the Boss... "I didn't say it was your fault. I said I was going to blame it on you."
- A direct quote from the Boss: "We passed over a lot of good people to get the ones we hired."
- My Boss said to me "What you see as a glass ceiling, I see as a protective barrier."

Think about this:

Some employers complain : "We train our people and they leave us!"

I ask them "What if you don't train them, and what if they don't leave?!!"