



# Burn-Smooth

SHRI-RUDRA GROUP

An ISO 9001 : 2008 Certificate Company

Petrochem

## Burn - All



**Primary Combustion Reaction**  
 $C + O = CO \rightarrow 2,000 \text{ Kcal}$

**Secondary Combustion Reaction**  
 $CO + O = CO_2 \rightarrow 6,000 \text{ Kcal}$

Means : Journey from  $^{\circ}C$  CO2 gives rise to 8,000 Kcal Energy

### Clean Engine More Power



CHOKED INJECTOR



CLEAN INJECTOR

Steady Flow of Fuel improve Smoothness & Pick up in Engine

### Major Benefits of Burn-All

- Reduction in Burner choke up
- Reduction in Fuel consumption
- Reduces carbon deposits in Engine
- Increase in Burner / Equipment life
- Reduction in scaling losses
- Reduction in Pollution
- Improves Pick up
- Improves Milage

### Physical and Chemical Properties of multi-functional Fuel Additive Burn-All

Appearance	: Clear liquid
Colour	: Orange/Red
Odour	: Pungent odour
Boiling range	: > 150 ~ 300 °C
Freezing point	: (-) 18 °C
Flash Point	: 55 °C
Chemical Constituents	: % C : 73 ~ 76 % H <sub>2</sub> : 14 ~ 16 % S : 0.001 % O <sub>2</sub> : 12 ~ 14
Density	: 0.790 ~ 0.810
pH Value	: 7 (± 1.5)

### Standard Fuel Combustion

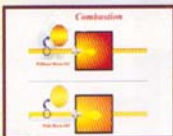


### Standard Fuel Combustion + Burn All



**Burn-All** is a multifunctional fuel additive for any Hydro Carbon fuel like Petrol, HSD, SKO, FO, HPS, etc. This has FIVE functional constituents : Lubricity Improvers, Dispersants, Surfactants, Solvents and Active Catalysts

- **Burn-All** can be used in any Hydrocarbon Fuel without any harm to the Storage tanks or pipelines as it has almost neutral pH value.
- Solvent action of **Burn-All** reacts with the sludge generated in the storage tanks and pulls out the solid soluble Carbon particles from the sludge. Thus, recovering almost 40 ~ 60 % combustibles from sludge to fuel oil.
- In Pre-Combustion stage, the detergent action of the Fuel Additive reacts with the sticky sludge deposit in the entire system including pipeline, burners, etc., and cleans it, resulting in the reduction in operating oil pressure.
- Reduction in viscosity improves flame geometry - thus improving atomisation.
- Specially designed catalysts gets dissolved in any Hydrocarbon Fuel along with **Burn-All** when it is released in combustion chamber - during the second phase of combustion releasing nascent Oxygen and converting CO into CO<sub>2</sub>.



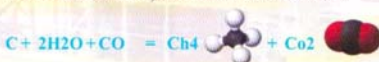
## Burn-O-Therm

This is a thermoactive combustion booster for solid fuels like Coal, Pet-Coke, Bagass, Wood, Ricehusk, etc.

### How Burn-O-Therm Works ?

**BURN-O-Therm** works in 3 ways with Carbon :

**1. BY Improved Methanisation :-** Coal is having 3.5% intrinsic moisture means for 20 MT COAL charged 700 kg H<sub>2</sub>O (WATER) is pumped inside the furnace. Chemical reaction at elevated temp breaks the water molecule in presence of **BURN-O-THERM** and Hydrogen liberated helps improvement in METHANISATION, which has 12000 Kcal GCV.



Means instead of wasting latent heat for converting water into steam. The water is split into energy. This is our 3<sup>rd</sup> Generation Technology.

Flame Before



Flame After



**2. By Oxidation of Un-burnt or Partially burnt Carbon :-** Burning of Carbon means Oxidation of Carbon. When Carbon burns complete combustion means  $C + O_2 = CO_2 + 8000$  Kcal. But eventually 100% carbon doesn't burn completely and some part of the carbon reaches only up to CO level means

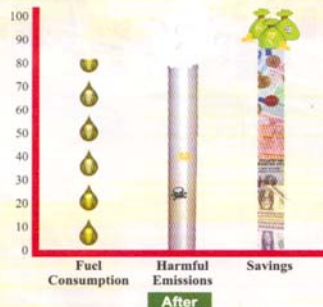
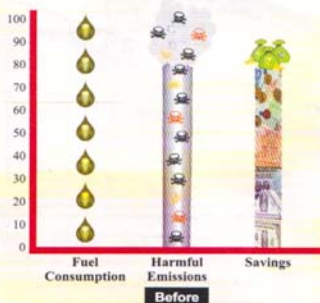
$C + O = CO + 2000$  Kcal means there is a loss of 75% energy i.e. 6000 kcal for the generation of CO. Also some un-burnt carbon is left over from Ignation ( LOI ) which joins ash that is 100% loss of energy equivalent to Un burnt in Ash ( LOI ) . Burn fast embedded with the coal particles releases "O" which completes the reaction at primary combustion stage. Thus **BOOSTS COMBUSTION**.

**3. BY Saving Coolant effect of Excess Air :-** In normal case we operate at 40-60% excess air means oxygen level of almost 8 to 12% suppose if we convert this excess air into volume say 10,000 Cu Ft per Minute (CFT) means useful stuff (O<sub>2</sub>) we are getting is only 2000 CFT & N<sub>2</sub> (WHICH IS UN-REQUIRED GAS ) 8000 CFT. Logically when we liberate the OXYGEN through chemical reaction we can reduce at least 50 % excess air which is going into system at ambient temp. At any time differential temp between furnace temp and ambient temp is 800-1000 degree centigrade. so the coolant effect is avoided to the extent of Air we can reduce.

### Major Benefits of Burn-O-Therm

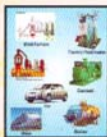
**BURN-O-THERM** not only reduces fuel consumption but also helps you in following ways :

- Reduction In Harmful Emissions Like Co , Sox, Nox.
- Reduction In Clinker Formation.
- Reduction In Stack Temp.
- Reduction Of Unburnt In Bottom And Fly Ash.
- Last But Not Least Reduces Pressure On Id & Fd Fans Thereby Reducing Few Units Of Electrical Consumption.



Dealers Enquiry Solicited

Energy Conservation you need our Moto



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