The Andhra Sugars Limited.

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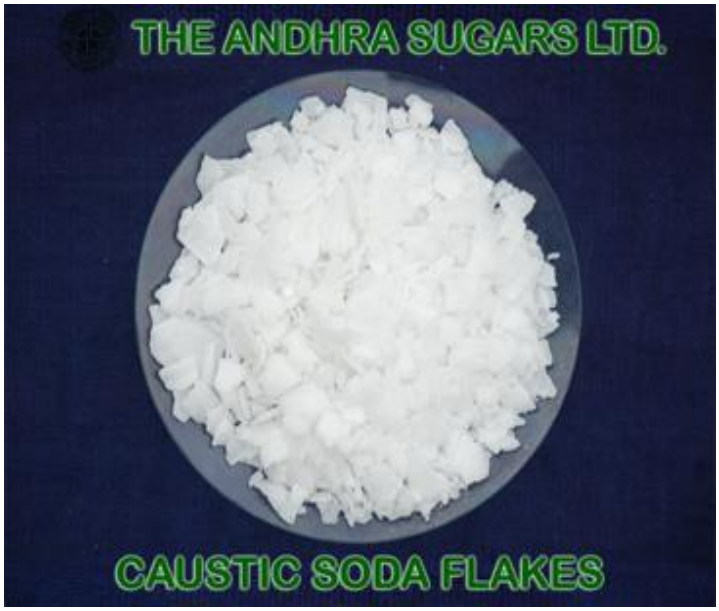
CAUSTIC POTASH LYE



S No.	Characteristics	Description
1.	Technical Name	Potassium Hydroxide
2.	Chemical Formula	KOH
3.	Formation	Flakes/Lye
4.	CAS Registry No.	1310-58-3
5.	HSN	2815

The Andhra Sugars Limited.

PRODUCT DESCRIPTION

Description	Caustic Potash Lye	Caustic Potash Flakes
Total Alkalinity as KOH	48.0 % (Min)	89.5 % (Min.)
Carbonates as K2 Co3	0.2 % (Max)	0.5 % (Max)
Chlorides as Kcl	0.015 % (Max)(150 ppm)	0.026 % (Max)(260 ppm)
Sulphates as K2 So4	0.002 % (Max)(20 ppm)	0.004 % (Max)(40 ppm)
Iron as Fe	0.0003 %(Max)(3 ppm)	0.006 % (Max)(6 ppm)
Sodium as Na	0.4 % (Max)	0.004 % (Max)(40 ppm)
Silicates as SiO2	0.002 % (Max)(20 ppm)	0.0001 % (Max)(1 ppm)
Sodium as Na	—	0.8 % (Max)

Technology

Membrane Cell Technology by UHDE, Germany and Caustic Potash Flakes is manufactured by Technology of Buflovak LLC, USA.

Exclusive Features

Mercury free and Low iron content

Caution

Harmful to plants & animals tissues, corrosive.

Packing

C.P. Lye in Tankers and **C.P. Flakes** in 40/50 KG HDPE bags with inner alkathene liner.

Applications

Acid Neutralization, Drying agent for Sulphur dioxide, Carbon dioxide, Dye Stuff Industry, Extraction of Petroleum products

Nickel, Cadmium Batteries, Other Potassium based Chemicals, Pharmaceutical Industry, Potassium Carbonate manufacture, Potassium Permanganate manufacture, Rubber chemicals, Soft Soap Industries.

Advantages

- The Andhra Sugars Limited guarantees minimum **48%** purity of KOH for C.P. Lye and **89.5%** purity of KOH for C.P. Flakes (Dry Basis).
- Quality Control Lab is equipped with most modern instruments to analyze the product parameters.

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MATERIAL SAFETY DATA

Material Identification

Technical Name	POTASSIUM HYDROXIDE **50%Lye**
Synonyms	CAUSTIC POTASH LYE, POTASSIUM HYDRATE
Chemical Classification	INORGANIC ALKALI
Chemical Formula	KOH
Hazard Class	CORROSIVES-8
CAS Registry No.	1310-58-3
UN No.	1814
Hazchem Code	2R
Hazardous Waste Id No.	16

Product Use

Used in the manufacture of soft soap, nickel cadmium storage batteries, it is used as absorbing agent for sulphur-dioxide, carbon-dioxide etc.

Hazardous Ingredients

Hazardous Ingredient	Potassium Hydroxide
Concentration	-
CAS/UN No.	1310-58-3
LC50	-
LD50	-

Physical and Chemical properties

State	Liquid
Molecular Weight	56.11
Vapour Pressure	-
Melting Point	-
Colour	Colourless
Specific gravity	1.49
Vapour density	-
Boiling Point	132^{o}C
Odour	Odourless
Water Solubility	SOLUBLE
pH	14
Freezing Point	-
Others	-

Fire/Explosion hazard data

Flammability	NON- FLAMMABLE
Auto Ignition temperature	-
Sensitivity to chemical impact	None
TDG Flammability	-
Explosive range	-
Flash Points	-
Hazardous Combustion Products	TOXIC FUMES OF K_2O
Sensitivity to static discharge	None

Reactivity Data

Chemical Stability	STABLE
Reactivity	Attack Metals Aluminium, Lead, Tin, Zinc. Violent Reaction With Acids and Halogenated Hydrocarbons.
Incompatibility	Acid, others, halogenated hydrocarbons. Metals: Aluminium, Lead, Tin, Zinc dangerous reaction Products.

Health hazard data

Route of entry	SKIN CONTACT, INGESTION, DUST INHALATION.
Effects on acute exposure	VAPOUR : PUNGENT, COUGH, LUNG EDEMA SKIN CONTACT: CORROSIVE, PAIN, BURNS. INGESTION: CORROSIVE, SCARS, PERFORATION.
Sensitization to Material	-
Permissible limits	TLV(C) = 2MG/M 3
Lethal dose	LD_{50} (ORAL - RAT) = 365 MG/KG.
Effects on Chronic exposure	DISTRUCTIVE EFFECT ON HUMAN TISSUE, DERMITITIS
Synergistic Materials	-

Preventive Measures

Storage requirements	Storage Tanks of mild steel construction. Plastic Drums or carboys.
Engineering controls	Ventilation, Dike Walls, vent on storage tank and transfer piping.
Handling methods	Pumping
Leak and spill handling	Spilled material to be collected as heap(s) and kept covered until transferred into new bags. Area shall be cleaned and thoroughly washed with water.
Waste Disposal	effluents should be treated before disposal
Personal protective equipment	Face shield, gloves, Gum boots protective Clothing.
Special shipping information	-

Emergency/First-Aid measures

First – Aid Antidotes **Skin**: Remove Contaminated Clothing. Thorough Washing Affected Area. **Eyes**: Wash thoroughly with running water for at least 15 Minutes. Irritation of eyes may continue until Medical Aid sought. **Ingestion**: Rinse mouth, large intake of water, do not induce vomiting. Get medical attention soon.
Additional information: Deluge water shower, eye wash fountain shall be located close to chemicals handling area.

MANUFACTURER / SUPPLIER / CONSUMER DATA THE ANDHRA SUGARS LIMITED Chemicals & Fertilizers Division. K0VVUR - 534 350, A.P.	Phones: 231597,231598,231599 Grams : CHEMICALS Fax: 08813 – 231218

Disclaimer

The information contained in this Material Safety Data Sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as its accuracy, suitability for a particular application or results to be obtained from them. It is however, ensured that the information contained in the material safety data sheet is relevant to the product manufactured/ handled or sold as the case may be by us.

ANALYSIS PROCEDURE

ANALYSIS PROCEDURE - CAUSTIC POTASH

(1) S.Gr. Temp: Refer Chart to know the total alkalinity as KOH Concentration.

(2) Determination of KOH and K2Co3: Weigh one empty dry weighing bottle with Lid. Take about 2 to 3 grams of flakes or 3 to 4 ml of lye by means of graduated pipette into the weighing bottle and weigh again. Transfer the sample into a conical flask, add about 50 ml distilled water and add 2 to 3 drops of Phenolphthalein indicator.

Weigh of sample = W grams
To know approximate volume of 1 N Hcl
(Titer value)
Percentage/5.6 = vol. of 1N Hcl for 1 gram sample.

Titrate it against standard I N Hydrochloric Acid solution up to a little before the end point. Take this reading on A. Further titrate it against 0.I N Hydrochloric Acid solution till the pink color just disappears. Take this reading on B. Then add 2 to 3 drops of Methyl orange indicator and continue titration against 0.1N Hydrochloric Acid to a reddish orange colour. Take this reading as C.
Total Phenolphthalein T.V. = A + B/10 = X ml in 1 N
Methyl Orange T.V.in I N = C/10 = Y ML
Phenolphthalein end point = KOH + ½ K2 Co3
Methyl Orange end point = ½ K2 Co3 KOH%
= [(X-Y] X 1 N X 56 X 100]/(W X 1000)
= [(X-Y) X 5.6]/W K2 Co3
= (2Y X 1 N x 69 x 100)/(W X 1000)
= (Y x 13.8)/W

(3) Determination of Chlorides: - Weigh accurately about 10 grams of flakes or 20 grams of the lye. Transfer it into a 250 ml conical flask, add about 50 ml distilled water, neutralize it with concentrated Nitric Acid and then add about 5 ml of the acid in excess, cool to room temperature. Pipette out 10 ml of 0.05 N Ag No3 into it. Add 5 ml of Nitro benzene or Carbon Tetrachloride. Shake well. Add Ferric Ammonium Sulphate indicator. Titrate it against 0.05 N Ammonium Thiocyanate solution. The end point being appearance of permanent red-brown colour.

10 ml of Silver Nitrate = 10 ml Ammonium Thiocyanate (Blank expt.)
Silver Nitrate consumed = (10-T.V) ml
Weight of the sample = W grams
Chloride (as KCl) percent by mass
= (AX0.05X74.5)X100/WX1000
= (A X 0.3725)/W.