Luster-On Products

Technical Data Sheet

Kemflur

I. GENERAL DESCRIPTION

Kemflur is an acidic fluoride containing solid that can be used in place of hazardous liquid hydrofluoric acid in many applications. It is particularly useful for many metal finishing acid treatments.

READ MATERIAL SAFETY DATA SHEET BEFORE USING THIS PRODUCT

II. SOLUTION MAKE-UP

A. ALUMINUM

Kemflur is an excellent and efficient desmutter and deoxidizer for silicon bearing aluminum alloys.

1. FORMULA

Nitric Acid (42° Be):	75% by volume.
Water:	25% by volume.
Kemflur:	16-20 oz/gal. of acid mixture.

2. OPERATING CONDITIONS

Temperature:	Room.
Immersion Time:	15-30 seconds.
Ventilation:	Required.

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II. SOLUTION MAKE-UP (CONTINUED)

B. CAST IRON

Kemflur containing acid solutions may be used for cleaning and deoxidizing castings.

1. FORMULA

Sulfuric Acid (66° Be):	10% by volume.
Water:	90% by volume.
Kemflur:	12 oz/gal. of acid mixture.

2. OPERATING CONDITIONS

Temperature:	Room.
Time:	15-30 seconds.
Ventilation:	Required.

C. INCONEL

Kemflur solutions may be used for deoxidizing and pickling Inconel alloys.

1. FORMULA

Nitric Acid (42°Be):	33% by volume.
Water:	67% by volume.
Kemflur:	4 oz/gal. of acid mixture.

2. OPERATING CONDITIONS

Temperature:	150-165°F.
Time:	15-30 seconds.
Ventilation:	Required.

II. SOLUTION MAKE-UP (CONTINUED)

D. STAINLESS STEEL

Acidic Kemflur solutions successfully clean and deoxidize various grades of stainless steel.

1. FORMULA

Nitric Acid (42° Be):	30% by volume.
OR	
Sulfuric Acid (66° Be):	
Water:	70% by volume.
Kemflur:	16 oz/gal. of acid mixture.

2. OPERATING CONDITIONS

Temperature:	130-140°F.
Time:	15-45 seconds.
Ventilation:	Required.

E. TITANIUM

Kemflur solutions successfully pickle and deoxidize titanium alloys.

1. FORMULA

Nitric Acid (42° Be):	20% by volume.
Water:	80% by volume.
Kemflur:	2 1/4 oz/gal. of acid mixture.

2. OPERATING CONDITIONS

Temperature:	Room.
Time:	15 - 30 seconds.
Ventilation:	Required.

III. EQUIPMENT

We would advise using rubber, Koroseal, polyethylene or polyvinyl lined tanks when using Kemflur with such acids as sulfuric. For mixtures of oxidizing acids such as nitric, we would suggest Koroseal lined or modified rigid polyvinyl as recommended by the tank manufacturer. Teflon heating coils are recommended where heating is required.

IV. PACKAGE

100-pound polyethylene lined fiber drum.

V. DISPOSAL

All acidic Kemflur solutions must first be neutralized and then discharged in accordance with Federal, State and Local Regulations.

VI. SAFETY AND HANDLING PRECAUTIONS

CAUTION: **HIGHLY ACIDIC INDUSTRIAL PRODUCT. CONTAINS FLUORIDE.**

DANGER! **CAUSES SEVERE BURNS THAT MAY OR MAY NOT BE IMMEDIATELY PAINFUL OR VISIBLE! HARMFUL IF SWALLOWED OR INHALED.**

Avoid contact with eyes, skin, and clothing.
Wear safety goggles, rubber gloves, and other suitable protective clothing when handling.
Wash thoroughly after handling. Avoid inhalation of mist or vapor.
Use with adequate ventilation.
Do not take internally.
Avoid contact with glass, ceramic or concrete. In case contact is made, rinse surface promptly and thoroughly with water.
Avoid contact or mixing with materials containing chlorine.
Before opening container, loosen closure slowly to relieve any pressure build-up.
Keep container closed when not in use.
Store in a cool place out of direct sunlight at temperatures below 120°F.

FIRST AID IN CASE OF CONTACT

In case of contact or suspicion of contact, prompt medical attention is absolutely necessary.

FOR EYES: Immediately flush eyes with plenty of water for at least 15-30 minutes. Hold eyelids apart while flushing to insure contact of water with all surfaces of eyes and lids. **Get immediate medical attention!**

VI. SAFETY AND HANDLING PRECAUTIONS (CONTINUED)

FIRST AID (CONTINUED)

FOR SKIN: Immediately flush with large quantities of cool water until all acid is removed, paying particular attention to the skin under nails. Immediately remove contaminated clothing and shoes. Wash clothing and shoes before reuse. **Get immediate medical attention!**

IF SWALLOWED: Rinse out mouth thoroughly with water. Give water to drink without delay. Follow with milk or 2 ounces of milk of magnesia. **Get immediate medical attention!**

IF INHALED: Remove from exposure. In case of severe overexposure, **get immediate medical attention!**

KEEP OUT OF REACH OF CHILDREN

FOR INDUSTRIAL USE ONLY

This product is sold for industrial use only. Our suggestions for its use are based upon tests and procedures, which from experience we believe to be reliable. Since the use is beyond our control, neither we nor our distributors can assume responsibility, either expressed or implied for the results and/or for violation of any patents or claims resulting from such use.

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CONTROL OF LUSTER-ON KEMFLUR

I. REAGENTS

Sodium Alizarin Sulfonate Indicator: Add 0.1g Sodium Alizarin Sulfonate to 100 ml D.I. water.

Buffer Solution: Add 9.45g Chloroacetic Acid and 2.0g dry Sodium Hydroxide to 100 ml D.I. water.

Thorium Nitrate: Carefully weigh 13.80g of reagent $Th(NO_3)_4$ $4H_20$; THEN ADD TO 1L of D.I. water in a Volumetric flask. Stir until completely dissolved.

II. PROCEDURE

1. Pipette a 1-ml sample into a 250-ml Erlenmeyer flask and add 50 ml of D.I. water.
2. Add 12 drops of Sodium Alizarin Sulfonate Indicator.
3. Add 1N NaOH dropwise until solution turns from yellow to pink, then add 1N HCL dropwise to yellow.
4. Add 2 ml of buffer solution.
5. Titrate with 0.1N Thorium Nitrate to pink endpoint.

III. CALCULATION

ml of Thorium Nitrate X Normality of Thorium Nitrate X 3.8 = oz./gal. Luster-On Kemflur.