KYZEN
CORPORATION

IONOX® FCR

High Strength, Water Soluble Alcohol Cleaning Chemical

Primary Applications

IONOX FCR is used to remove the most difficult of soldering fluxes and assembly residues from microelectronic, hybrid, and surface mount electronics in dipping, immersion, centrifugal, ultrasonic, and inerted spray cleaning systems.

Benefits & Features

- ▲ High strength cleaning alcohol for fast effective cleaning
- ▲ Completely water soluble allowing for easy rinsing without oily residues
- ▲ A low volatility alcohol with little odor and environmental emissions
- ▲ Extensive material compatibility testing and industrial experience
- ▲ Low pH formulation results in bright, shiny solder and part surfaces
- ▲ Simple, economical closed loop water reuse capability
- ▲ Low industrial toxicity and high flash point minimizes workplace hazards
- ▲ Low surface tension allows for cleaning of tight spaces and easy rinsing
- ▲ No ozone depleting substances and EPA SNAP approved

Chemical Description

IONOX FCR is formulated for cleaning the most difficult of soldering fluxes and assembly residues from microelectronics, hybrid, and surface mount electronics. It accomplishes cleaning through the high solvency of the Kyzen alcohol, often without the use of high impingement air sprays or ultrasonic agitation. Unlike common alcohols like isopropyl alcohol (IPA), the Kyzen alcohol has a greater dissolving capacity without highly volatile flammability. IONOX FCR finishes its washing process with easy rinsing created by the complete water solubility of its formulation. Fluxes and residues are held in solution with special activators and surfactants. Artificial emulsions or rinse aid chemicals are not required.

Typical Properties

Flash Point (Tag CC)	164° F	**Boiling Point**	178°C
(Cleveland OC)	184°F	**Appearance**	Clear to light amber
Odor	Alcohol	**pH (50% solution)**	9.1 - 10.5
Vapor pressure	0.2 mm Hg at STP	**Specific gravity**	`1.050 - 1.070

Typical Process

IONOX FCR is placed into a stainless steel wash chamber without water dilution. It is then heated to approximately 140°F or 60°C. Higher or lower temperatures might also be used. Washing is usually accomplished through spray under immersion, or ultrasonic agitation. Inerted nitrogen atmosphere direct spray agitation is also used. Following the washing process, a heated water rinse

KYZEN
CORPORATION

is used in either immersion or direct spray processes. Heated rinse water is recommended because it will enhance the speed of the rinsing and drying processes. Deionized electronic grade water is also recommended for the rinsing to prevent dissolved solids from depositing on the cleaned parts. Following rinsing, a forced hot air drying process is usually initiated.

Closed-Loop Water Treatment

Closed-loop water treatment for the IONOX FCR is accomplished with specially designed reverse osmosis (RO) membranes and equipment. On occasion, carbon and resin filtering are used, but they are used only in applications of very small rinse water loading or polishing steps and are limited in their ability to absorb larger quantities of contamination.

Product Material Compatibility

IONOX FCR chemical has an extensive track record of compatibility with most micro-electronic, hybrid and circuit board material, component and material. Beyond this, Kyzen and the National Center for Manufacturing Sciences (NCMS) also offer material compatibility testing data on the Kyzen cleaning agents.

Industrial Equipment Material Compatibility

IONOX FCR is commonly used in stainless steel equipment. Manufacturers using other metals, plastics, and polymers should conduct long term use studies or contact Kyzen prior to installing equipment using IONOX FCR.

Safety

Kyzen's IONOX FCR Material Safety Data Sheet outlines the safe use of this material.

Environmental Compliance

IONOX FCR is operated in compliance with air, water, solid waste, and VOC regulations. Contact Kyzen regarding pertinent data to your process.

Availability

IONOX FCR is available in 1, 5 and 55 gallon containers.

Ordering Information

Kyzen Corporation
430 Harding Industrial Drive
Nashville, TN 37211
615.831.0888 ☎
615.831.0889 Fax