



The positive effects of minus ions has been known for many years. In more recent years it had been applied by the household electronic equipment industry, architectural industry and textiles industry.

ITOFINISH LJR is a specially developed negative ion generation finish based on natural ceramics hormesis of weak radiation effect.

What is the “Minus ion”?

Negative ions (minus ion) exist naturally and are abundant in rural areas such as forests and particularly areas with an abundance of water such as streams and waterfalls.

The positive revitalising feeling generally found when standing close to waterfalls etc is attributed to the increased amounts of negative ions in the air. Conversely, concentrations of electrical equipment such as in the household or office environment lead to increased positive ion concentrations and can have the effect of increasing tiredness/fatigue.

It is said that three kinds of minus ions exist in atmosphere. ITOFINISH LJR utilises natural ceramics to produce negative ions.

- 1) Minus ion in general chemistry  
Nitrogen oxide, sulphur oxide or carbon dioxide combine with atmospheric moisture and can be converted into positive and negative ions.
- 2) High voltage plasma electrical discharge minus ion  
Electrical discharge minus ion generation is used in household electronic equipment products such as air conditioners. However this produces ozone and is one of the largest issues faced by the household electronic equipment industry.
- 3) Natural ceramic (Mineral : Deposit)  
Hydroxyl minus ions ( $H_3O_2^-$ ) produced from ceramics. Negative ions are produced when moisture comes into contact with the special porous ceramics. Through agitation the water molecules are broken down to produce negative ions.

What is the Hormesis Effect of a Weak Radiation?

It is believed by some that a weak irritant stimulates activity. This is called the “Effect of the hormesis of weak radiation”.

In parts of the world hot radium baths are used as places to visit to bathe and to revitalise. They are considered by some to give increased vitality and help maintain a person’s health due to the effect of the hormesis of weak radiation experienced at these type of baths.

Minus ion Hormesis Processing Agent “ITOFINISH LJR”

ITOFINISH LJR is a combination of a naturally occurring weak radiation ore and a finely ground natural ceramic which generates minus ion.

Negative ion products based solely on ceramic require agitation to produce negative ions. Combined with the weak hormesis effect ITOFINISH LJR can generate negative ions without the need for agitation.

By using ITOBINDER AG as binder, washing resistance of 20-30 times can be achieved.

**MAGNACOLOURS**<sup>®</sup>  
IMAGINATION INK<sup>™</sup>



**MagnaColours Limited**  
Upper Cliffe Road,  
Dodworth Business Park,  
Barnsley, S75 3SP, UK

T: 00 44 (0) 1226 731751  
F: 00 44 (0) 1226 731752  
E: [info@magnacolours.com](mailto:info@magnacolours.com)  
[www.magnacolours.com](http://www.magnacolours.com)

Company registered in  
England No. 01378495,  
VAT No. GB 997 3172 70



## PROPERTIES

- **Appearance** : Slightly yellowish to slightly grey brown colour dispersion liquids
- **Main Ingredient** : Natural ceramics and weak radiation emission ore
- **Ionic Character** : Weak anion
- **pH** : 7.5 ± 0.5
- **Solubility** : Readily soluble in water (Add after dispersed in a small amount of water)

## APPLICATION

In Padding:

- **ITOFINISH LJR** : 30 - 50 g/l
- **ITOBINDER AG** : 50 g/l
- **ITOSILICONE LJ88** : 10-20g/l (As required for handle)
- **Drying** : 120°C for 1 - 2 min.
- **Curing** : 160°C for 1 min

In Exhaustion:

- **Not Applicable**

## DISCLAIMER

The information herein offered is based on the best of our knowledge at present. However, we are not able to guarantee these matters, as the result of application may vary according to conditions adopted. Preliminary tests are, therefore, recommended in all cases. Please refer to MSDS regarding handling of the products.

## APPLICATION

1. "United States health physics review of academic society"  
Dr. Thomas D Lucky : December 1982, Professor of the Colombia University, Missouri
2. 1995 fiscal year "Main Research result"  
(Source: Annual Research report 1996 edition)  
Ishii Keiichiro, Komae research Labo. Radiation group reader, Nuclear power system Dept
3. Radiation Hormesis, Effect of weak radiation stimulus on living thing  
T.D Luckey : 1993 Soft Science Company
4. Radiation Hormesis II, On human and animal's data  
T.D Luckey : 1995, Soft Science Company.