Materials Safety Data Sheet

2 0 0 8 - 8 - 3 Product; "Themarox" (concentrated minerals solution)

Manufacturer; Shimanishi Kaken Co.,Ltd.

Personnel in charge; Isao Kusano, Production Maneger

Name of product;"Themarox"

Classification ; Singular/ mixture; Singular

Chemical classification; Sulfate Solution of various minerals

Ingredients and Contents (g/l);

Fe 12.6 as $Fe_2(SO_4)_3$

Al 10.9 as $Al_2(SO_4)_3$

Mg 4.2 as $MgSO_4$

K 2.1 as K_2SO_4

H_2SO_4 50.0

Other minerals (refer to the Analysis Data--page3)

Statistical product number (HS No.);3824,90-0004(Chemical industrial products)

Standard international trade classification (SITC);523-19(Inorganic chemicals)

The United Nations classification; Item No.66, UN No.2796,(Products containing low density sulfuric acid)

Classification of dangerousness and harmfulness

Classification; Acid concentrated minerals solution

Dangerousness; Not caustic to human skin ,because free sulfuric radical content is low(5%).

Harmfulness; Not harmful , because "Themarox" does not contain any harmful heavy metal elements. (refer to the Analysis Data--page3.)

Environmental influence; "Themarox" does not affect any natural ecosystems ,because it is water purifying agent consists of natural minerals, necessary for the human beings, higher animals and plants to maintain their lives. Non-dangerousness, harmlessness and environmental safety of "Themarox" can be certified through such a fish toxicity test as any kind of fresh water fish can live longer in diluted "Themarox".

First aid

In case of contact with eyes ,rinse immediately with clean water.

In case of contact with skin ,flush immediately with clean water

In case of inhaling, first aid is not needed.

In case of swallowing, drink water or milk.

Measures for fire-fighting; Unnecessary , because "Themarox" is incombustible.

Measure :in case of leakage; Neutralize with lime or other alkali.
Handling and storage; Handle with acid-proof tools made of plastic or stainless steel.
The wo rkers should wear acid-proof clothes and gloves.
The products should be stored in acid-proof containers such as plastics. These containers should be stored indoor location.

Physical/chemical property
Appearance; Pale brown liquid
Specific gravity; 1.15~1.16
Ph; 0.5~1.0
Boiling point ; 103?
Melting point ; minus 10?
Solubility(water); 100% (at 10?)

Dangerousness data
Flash point; Nil
Combustibility; Nil
Oxidization; Nil
Explosiveness; Nil
Dust explosiveness; Nil

Harmfulness data
Causticity to skin ; Nil
Stimulus; Stimulant to injured skin
Sensitivity; Nil
Acute poisonousness; Nil
Semi-acute poisonousness; Nil
Chronic poisonousness; Nil
Carcinogenicity ; Nil
Mutagenicity ; Nil
Reproduction poisonousness ; Nil
Teratogenicity ; Nil

Environmental data
Resolv ability; Nil
Accumulability ; Nil
Poisonousness to fish; Nil
Caution; "Themarox" is disposable after neutralization.

Contents of harmful heavy metal elements

Arsenic ---------- not detected

Lead---------- not detected

Cadmium-------- not detected

Total mercury ---not detected

Ingredient analysis data

Element	Volume (mg/l)	Element	Volume (mg/l)
Ce	9.6	Sc	1.5
Ca	263	Sr	6.5
P	238	Cu	7.5
Mg	4160	Co	6.8
K	2070	Ni	3.6
Na	154	Mo	< 0.5
Se	< 5	Li	4.9
Si	12.7	V	25.0
Ge	< 1	W	< 1
Zn	20.2	Ba	< 0.5
Mn	219	Ti	983
Fe	12,600	Zr	0.6
La	4.0	Al	10,900
Rb	3.6	All Cr	10.0
Y	1.6	All S	68,900

End