

Total Phenols - Folin & Ciocalteu's Reagent



Health & Safety data sheet

According to EC Directive 91/155/EC and following amendments

Revision Date: 2016-06-01

Reason for Revision: Reviewed Only

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Product name:

- Mi550B-020 Total phenols – Folin & Ciocalteu's reagent

Application:

- Reagent for wine analysis

Manufacturer identification: Milwaukee Instruments
2950 Business Park Drive
Rocky Mount, NC 27804

Emergency Telephone n. °: -

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:

NAME (EC directives)	EC-Index-No.	CAS No.	LABELLING (EC directives)	CONTENT
Hydrochloric acid	017-002-01-X	7647-01-0	C, R 34-37 Xi, 37	≥ 1% - < 5%
Phosphoric acid	015-011-00-6	7664-38-2	C, R 34	≥ 5% - < 10%
Sodium tungstate	--	13472-45-2	Xn, R22	≥ 1% - < 10%
Lithium sulfate	--	10102-25-7	Xn, R22	≥ 10% - < 15%

(full text of R phrases in section 16).

SECTION 3 - HAZARD IDENTIFICATION

The concentration of the hazardous ingredient is below the limits of classification: a classification according to categories of danger as specified in directive 67/548/EC is not required.

Risk cannot be excluded if the product is handled improperly.

SECTION 4 - FIRST AID MEASURES

Remove contaminated, soaked clothing immediately and dispose of safely.

- **After inhalation** : fresh air
- **After skin contact** : wash off with plenty of water. Remove contaminated clothing.
- **After eye contact** : rinse out with plenty of water with the eyelid held wide open. Call in ophtamologist if necessary.
- **After swallowing** : immediately make victim drink plenty of water (if necessary several litres). Call in physician.

SECTION 5 – FIRE-FIGHTING MEASURES

- **Suitable extinguishing media:**
 - In adaptation to materials stored in the immediate neighborhood.
- **Special risks:**
 - Non-combustible.
 - Development of hazardous combustion gases or vapors possible in the event of fire.
 - The following may develop in event of fire: hydrochloric acid.
- **Special protective equipment for fire fighting:**
 - Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
- **Additional information:**
 - Prevent fire-fighting water from entering surface water or groundwater.

Total Phenols - Folin & Ciocalteu's Reagent

Health & Safety data sheet

According to EC Directive 91/155/EC and following amendments

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- **Personal precautions:**
 - Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.
- **Environmental precautions:**
 - Do not allow to enter the sewerage system.
- **Additional notes:**
 - Take up dry. Clean up affected area and dispose according to local regulation. Render harmless: neutralize with diluted sodium hydroxide solution or by throwing on lime, lime sand, or sodium carbonate.

SECTION 7 - HANDLING AND STORAGE

- **Handling:**
 - Avoid generation of vapors/aerosols.
 - Do not inhale substance.
- **Storage:**
 - Tightly closed. In a well-ventilated place at +15 to +25 °C.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

- **Engineering controls**
 - Safety shower and eye bath.
- **General hygiene measures**
 - Wash thoroughly after handling. Remove and wash contaminated clothing promptly.
 - Discard contaminated shoes.
- **Ingredients with occupational exposure limits to be monitored:**
 - HYDROXGEN CHLORIDE

<i>EXPOSURE LIMITS - GERMANY (max. workplace conc.)</i>		<i>EXPOSURE LIMITS - EC</i>		
Name	:	Source	Type	Value
Value	: 5 ml/m ³ ; 7.6 mg/m ³	OEL	OEL	8 mg/m ³ 5 ppm

Peak limit I local irritating substance
Embryotoxic cat. C no risk expected by maintaining TLV

 - HYDROXGEN CHLORIDE

EC	
Name	ortho-Phosphoric acid
Value	1 mg/m ³
- **Personal protective equipment:**
 - Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled.
- **Respiratory protection:**
 - Required when vapors/aerosols are generated. Work under hood.
- **Protective gloves:**
 - Rubber or plastic
- **Eye protection:**
 - Goggles or face mask

SECTION 9 - PHYSICAL/CHEMICAL PROPERTIES

- | | |
|--|---|
| • Appearance : Yellow, liquid | • Thermal decomposition : NA |
| • Odor : Pungent | • pH value at 20°C : < 0.5 |
| • Solubility in water : Soluble | • Density at 20°C : 1.27 g/cm ³ |
| • Melting point : NA | • Explosion limits : NA |
| • Boiling point : ND | • Flash point : NA |

SECTION 10 - STABILITY AND REACTIVITY

- **Conditions to be avoided:**
 - Heating.
- **Substances to be avoided:**
 - The generally known reaction partners of water.
- **Hazardous decomposition products:**
 - In the event of fire: see section 5.
- **Hazardous polymerization:**
 - Hazardous polymerization: will not occur

Total Phenols - Folin & Ciocalteu's Reagent

Health & Safety data sheet

According to EC Directive 91/155/EC and following amendments

SECTION 11 - TOXICOLOGICAL INFORMATION

Quantitative data on the toxicity of this product are not available.

APPLICABLE TO PARTIAL COMPONENT(S):

The following applies to Hydrogen Chloride – as the pure substance:

Acute toxicity

LC₅₀, Inhalation, Rat: 3124 ppm(V)/1h – calculated on the pure substance.

Signs and symptoms of exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Risk of perforation in the esophagus and stomach. After a latency period: cardiovascular failure.

Route of exposure

Skin Contact: Causes burns.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes burns.

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: Harmful if swallowed.

Chronic exposure - teratogen

Species: Rat, Dose: 450 mg/m³/1h

Route of Application: Inhalation

Exposure Time: (1D PRE)

Result: Specific Developmental Abnormalities.

APPLICABLE TO MAIN COMPONENT(S): the following applies to Phosphoric acid, as the pure substance:

Acute toxicity

LC₅₀ (inhalation, rat): >0.21 mg/l /4 h (calculated on the pure substance).

LD₅₀ (dermal, rabbit): 2740 mg/kg (calculated on the pure substance).

LD₅₀ (oral, rat): 1530 mg/kg (calculated on the pure substance).

Specific symptoms in animal studies:

Eye irritation test (rabbit): burns.

Skin irritation test (rabbit): burns.

Subacute to chronic toxicity

Sensitization:

Experience in man: No sensitizing potential.

Bacterial mutagenicity: Ames test: negative.

Further toxicological information:

Property of this product must be anticipated on the basis from the components of the preparation:

- **In case of inhalation of vapors/aerosols** : Absorption. Mucosal irritations. Sensitization possible in predisposed persons.
- **In case of skin contact** : Slight irritations. Sensitization possible in predisposed persons.
- **In case of eye contact** : Irritations.
- **In case of ingestion** : Irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.
- **Further data** : The product should be handled with the care usual when dealing with chemicals.

SECTION 12 - ECOLOGICAL INFORMATION

Quantitative data on the ecotoxicity of this product are not available.

APPLICABLE TO PARTIAL COMPONENT(S):

The following applies to Hydrogen Chloride – as the pure substance:

Ecotoxicological effects

Toxic effects on fish and plankton. Forms corrosive mixtures with water even if diluted. Damage to plant growth.

The following applies to HCl in general: harmful effects on aquatic organisms. Harmful effects due to pH shift.

Biological effects: hydrochloric acid (including such due to reaction): lethal for fish as from 25mg/L.

Test Type: LC₅₀ Species: Leuciscus idus: Time: 96 h, value: 862 mg/l (1N solution).

Total Phenols - Folin & Ciocalteu's Reagent

Health & Safety data sheet

According to EC Directive 91/155/EC and following amendments

Harmful effects begins at: plants 6 mg/L. Does not cause biological oxygen deficit.

APPLICABLE TO MAIN COMPONENT(S): the following applies to Phosphoric acid, as the pure substance:

Biologic degradation:

Inorganic substance. Does not cause biological oxygen deficit.

Ecotoxic effects:

Biological effects: Harmful effect on aquatic organisms. Caustic even in diluted form. Harmful effect due to pH shift. Fish toxicity: *Gambusia affinis* LC₅₀: 138 mg/l /96 h (calculated on the pure substance).

aquatic organisms LC₅₀: 100-1000 mg/l /96 h (calculated on the pure substance).

Bacterial toxicity: activated sludge EC₅₀: 270 mg/l (calculated on the pure substance).

Further ecologic data:

Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.

Do not allow to enter waters, waste waters, or soil!

SECTION 13 - DISPOSAL CONSIDERATIONS

• **Waste disposal:**

- Chemical residues are generally classified as special waste and thus covered by local regulations. Contact local authorities or disposal companies for advice.
- Handle contaminated packaging in the same way as the substance itself.

SECTION 14 - TRANSPORT INFORMATION

Not subject to transport regulations.

SECTION 15 - REGULATORY INFORMATION

Labeling according to EC Directives:

Symbol	-
R-phrases	-
S-phrases	-
Contains	-

SECTION 16 - OTHER INFORMATION

- **Text of any R phrases referred to under heading 2:**
 - 22 : Harmful if swallowed.
 - 34 : Causes burns.
 - 37 : Irritating to respiratory system.
- **Supersedes edition of** : / (1st edition)
- **Legend** : NA Not applicable
ND Not determined

THE INFORMATION CONTAINED HEREIN IS BASED ON THE PRESENT STATE OF OUR KNOWLEDGE. IT CHARACTERIZES THE PRODUCT WITH REGARD TO THE APPROPRIATE SAFETY PRECAUTIONS. IT DOES NOT REPRESENT A GUARANTEE OF THE PROPERTIES OF THE PRODUCT.