

Material Safety Data Sheet

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 Version 1.7
 Regulation (EC) No 1907/2006

1 - Product and Company Information

Product Name HYDRANAL-COULOMAT AK ANOLYTE FOR COULO-
 METRIC KF TITRATION IN KETONES
 Product Number 34820
 Company Sigma-Aldrich Company Ltd.
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2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
 May impair fertility. May cause harm to the unborn child.
 Flammable. Also harmful by inhalation, in contact with skin and if
 swallowed. Irritating to eyes, respiratory system and skin.
 Limited evidence of a carcinogenic effect. Also harmful: danger of
 serious damage to health by prolonged exposure through inhalation
 and if swallowed.

3 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number	
HYDRANAL COULOMAT AK	None	None	None	
Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
2-METHOXYETHANOL	>= 30 <= 60	109-86-4	203-713-7	603-011-00-4
Repr. Cat.2 Symbols: T R-Phrases: 60-61-10-20/21/22 May impair fertility. May cause harm to the unborn child. Flammable. Also harmful by inhalation, in contact with skin and if swallowed.				
CHLOROFORM	>= 10 <= 30	67-66-3	200-663-8	602-006-00-4
Carc. Cat.3 Symbols: Xn R-Phrases: 22-38-40-48/20/22 Harmful if swallowed. Irritating to skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.				
2,2,2-TRIFLUOROETHANOL	>= 10	75-89-8	200-913-6	None

<= 30

Symbols: Xn

R-Phrases: 10-20/21/22-37/38-41

Flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to respiratory system and skin. Risk of serious damage to eyes.

IMIDAZOLE >= 5 288-32-4 206-019-2 None
<= 15

Symbols: C

R-Phrases: 22-34

Harmful if swallowed. Causes burns.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions. Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back.
Explosion Hazards: Container explosion may occur under fire conditions. Forms explosive mixtures in air.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Liquid	
Property	Value	At Temperature or Pressure
pH	5	20 °C Concentration: 100 g/l
BP/BP Range	60 °C	
MP/MP Range	N/A	
Flash Point	32 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 2.5 % Upper: 20 %	
Vapor Pressure	N/A	
SG/Density	1.2 g/cm ³	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents, Plastics.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas, Hydrogen fluoride, Nitrogen oxides, Hydrogen bromide gas, Sulfur oxides, Hydrogen iodide, Phosgene gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

SIGNS AND SYMPTOMS OF EXPOSURE

In laboratory studies with this material, birth defects, fetotoxicity, embryoletality, anemia, bone marrow damage, hemolysis, immunosuppression, and damage to the male reproductive tissues have been observed.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. Harmful if inhaled.

Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION

Cardiovascular system. Bone marrow. Thymus. Blood. Kidneys.

Liver. Lungs. Immune system. Male reproductive system. Central nervous system.

CHRONIC EXPOSURE - CARCINOGEN

Result: This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTAGEN

Result: Laboratory experiments have shown mutagenic effects.

CHRONIC EXPOSURE - TERATOGEN

Result: May cause congenital malformation in the fetus.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Result: May cause reproductive disorders.

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting

as this material is highly flammable.

14 - Transport Information

RID/ADR

UN#: 1992
Class: 3
PG: III
Subrisk: 6.1
Proper Shipping Name: Flammable liquid, toxic, n.o.s.

IMDG

UN#: 1992
Class: 3
PG: III
Subrisk: 6.1
Proper Shipping Name: Flammable liquid, toxic, n.o.s.
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA

UN#: 1992
Class: 3
PG: III
Subrisk: 6.1
Proper Shipping Name: Flammable liquid, toxic, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: T
Toxic.

R-PHRASES: 60-61-10-20/21/22-36/37/38-40-48/20/22

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Flammable. Also harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect. Also harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

S-PHRASES: 53-26-36/37-45

Avoid exposure - obtain special instructions before use. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Caution: Substance not yet fully tested (EU).

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 3
Self-Classification

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The

information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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