

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : HYDRANAL®-Coulomat AG

Product Number : 34836  
Brand : Fluka

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable liquid, Irritant, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Carcinogen, Teratogen

##### Target Organs

Eyes, Kidney, Liver, Heart, Central nervous system, Blood

##### GHS Classification

Flammable liquids (Category 2)  
Acute toxicity, Oral (Category 3)  
Acute toxicity, Inhalation (Category 3)  
Acute toxicity, Dermal (Category 3)  
Serious eye damage (Category 1)  
Reproductive toxicity (Category 1B)  
Specific target organ toxicity - single exposure (Category 1)  
Specific target organ toxicity - repeated exposure (Category 2)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled  
H318 Causes serious eye damage.  
H360D May damage the unborn child.  
H370 Causes damage to organs.  
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
 P280 Wear protective gloves/ eye protection/ face protection.  
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

**HMIS Classification**

**Health hazard:** 3  
**Chronic Health Hazard:** \*  
**Flammability:** 3  
**Physical hazards:** 3

**NFPA Rating**

**Health hazard:** 3  
**Fire:** 3  
**Reactivity Hazard:** 0

**Potential Health Effects**

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.  
**Skin** Toxic if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Toxic if swallowed.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Classification	Concentration
<b>Methanol</b>		
CAS-No. 67-56-1 EC-No. 200-659-6 Index-No. 603-001-00-X Registration number 01-2119433307-44-XXXX	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301 + H311 + H331, H370	70 - 90 %
<b>Diethanolamine</b>		
CAS-No. 111-42-2 EC-No. 203-868-0 Index-No. 603-071-00-1	Acute Tox. 4; STOT RE 2; Skin Irrit. 2; Eye Dam. 1; H302, H315, H318, H373	10 - 30 %
<b>Imidazole</b>		
CAS-No. 288-32-4 EC-No. 206-019-2 Registration number 01-2119485825-24-XXXX	Acute Tox. 4; Skin Corr. 1B; Repr. 1B; H302, H314, H360D	10 - 30 %
<b>Sulphur dioxide</b>		
CAS-No. 7446-09-5 EC-No. 231-195-2 Index-No. 016-011-00-9	Press. Gas ; Acute Tox. 3; Skin Corr. 1B; H314, H331	10 - 30 %
<b>1H-Imidazole, monohydriodide</b>		
CAS-No. 68007-08-9	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; H302, H315, H319	5 - 10 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIREFIGHTING MEASURES****Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, Hydrogen iodide, Hydrogen cyanide (hydrocyanic acid)

**Further information**

Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Methanol	67-56-1	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		STEL	250 ppm	USA. ACGIH Threshold Limit Values (TLV)

	Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		TWA	200 ppm 260 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		STEL	250 ppm 325 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation			
		TWA	200 ppm 260 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	200 ppm 260 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			
		ST	250 ppm 325 mg/m3	USA. NIOSH Recommended Exposure Limits
	Potential for dermal absorption			
Diethanolamine	111-42-2	TWA	3 ppm 15 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Liver & kidney damage Confirmed animal carcinogen with unknown relevance to humans Danger of cutaneous absorption			
		TWA	3 ppm 15 mg/m3	USA. NIOSH Recommended Exposure Limits
Sulphur dioxide	7446-09-5	STEL	5 ppm 13 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Not classifiable as a human carcinogen			
		TWA	2 ppm 5 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	5 ppm 13 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	5 ppm 13 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		STEL	0.25 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Pulmonary function Lower Respiratory Tract irritation Not classifiable as a human carcinogen			
		TWA	2 ppm 5 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	5 ppm 13 mg/m3	USA. NIOSH Recommended Exposure Limits

### Personal protective equipment

#### Respiratory protection

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Immersion protection

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: > 480 min

Material tested: Butoject® (Aldrich Z677647, Size M)

Splash protection

Material: Chloroprene

Minimum layer thickness: 0.6 mm

Break through time: > 30 min

Material tested: Camapren® (Aldrich Z677493, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	no data available

### Safety data

pH	5.0 - 6.0 at 20 °C (68 °F)
Melting point/freezing point	no data available
Boiling point	63 °C (145 °F) at 1,013 hPa (760 mmHg)
Flash point	14 °C (57 °F) - closed cup
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	0.930 g/cm <sup>3</sup>
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available

Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Vapours may form explosive mixture with air.

### Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### Materials to avoid

Zinc, Acids, Oxidizing agents, Alkali metals, Strong oxidizing agents, Iron, Copper, Acid chlorides, Acid anhydrides, Reducing agents, acids, Strong reducing agents

### Hazardous decomposition products

Other decomposition products - no data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>), Sulphur oxides, Hydrogen iodide, Hydrogen cyanide (hydrocyanic acid)

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - > 2,000 mg/kg

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

Skin - rabbit - No skin irritation

### Serious eye damage/eye irritation

Eyes - rabbit - Risk of serious damage to eyes.

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Diethanolamine)

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Sulphur dioxide)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	Toxic if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Toxic if swallowed.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Synergistic effects**

no data available

**Additional Information**

RTECS: Not available

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - > 1,000 mg/l - 96 h Method: OECD Test Guideline 203
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Toxicity to bacteria	Remarks: no data available
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**Persistence and degradability**

Readily biodegradable, according to appropriate OECD test.

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1230 Class: 3 Packing group: II  
 Proper shipping name: Methanol, solution  
 Reportable Quantity (RQ): 500 lbs  
 Marine pollutant: No  
 Poison Inhalation Hazard: No

**IMDG**

UN number: 1230 Class: 3 (6.1) Packing group: II EMS-No: F-E, S-D  
 Proper shipping name: METHANOL, SOLUTION  
 Marine pollutant: No

**IATA**

UN number: 1230 Class: 3 (6.1) Packing group: II  
 Proper shipping name: Methanol, solution

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**15. REGULATORY INFORMATION****OSHA Hazards**

Flammable liquid, Irritant, Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Carcinogen, Teratogen

**SARA 302 Components**

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Sulphur dioxide	7446-09-5	2007-03-01

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Diethanolamine	111-42-2	2007-07-01

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Diethanolamine	111-42-2	2007-07-01
Sulphur dioxide	7446-09-5	2007-03-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Diethanolamine	111-42-2	2007-07-01
Imidazole	288-32-4	
Sulphur dioxide	7446-09-5	2007-03-01
1H-Imidazole, monohydriodide	68007-08-9	

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Diethanolamine	111-42-2	2007-07-01
Imidazole	288-32-4	
Sulphur dioxide	7446-09-5	2007-03-01
1H-Imidazole, monohydriodide	68007-08-9	



## California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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### 16. OTHER INFORMATION

#### Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or if inhaled
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H360D	May damage the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
Press. Gas	Gases under pressure
Repr.	Reproductive toxicity
Skin Corr.	Skin corrosion
Skin Irrit.	Skin irritation
STOT RE	Specific target organ toxicity - repeated exposure
STOT SE	Specific target organ toxicity - single exposure

#### Further information

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