

## Material Safety Data Sheet

Date Printed: 27/JAN/2005

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Version 1.0

According to 91/155/EEC

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1 - Product and Company Information

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Product Name HYDRANAL<R> XYLENE  
Product Number 37866  
Company Sigma-Aldrich Company Ltd.  
The Old Brickyard  
New Road, Gillingham SP8 4XT  
United Kingdom  
Technical Phone # 44-(0)-1747-833000  
Fax 44-(0)-1747-833313  
Emergency Phone # 44-(0)-1747-833100

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
XYLENE, MIXTURE OF ISOMERS	1330-20-7	215-535-7	601-022-00-9

Ingredient Name	Percent	CAS #	EC no	Annex I Index Number
THE FOLLOWING SUBSTANCES ARE PRESENT AS RESIDUAL COMPONENTS OF PRODUCTION.		None	None	None

ETHYLBENZENE	< 5	100-41-4	202-849-4	601-023-00-4
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Symbols: F Xn

R-Phrases: 11 20

Highly flammable. Harmful by inhalation.

Formula C8H10  
Molecular Weight 106.17 AMU  
Synonyms Benzene, dimethyl- \* Dimethylbenzene (OSHA) \*  
Ksylen (Polish) \* Methyl toluene \* NCI-C55232 \*  
RCRA waste number U239 \* Violet 3 \* Xiloli  
(Italian) \* Xylene (ACGIH:OSHA) \* Xylenen  
(Dutch) \* Xylol \* Xylole (German)

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Flammable. Harmful by inhalation and in contact with skin.  
Irritating to skin.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give  
artificial respiration. If breathing is difficult, give oxygen.

## AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for

at least 15 minutes. Remove contaminated clothing and shoes.  
Call a physician.

#### 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 immediately.

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

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

Unsuitable: Water may be effective for cooling, but may not effect extinguishment.

#### SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions.

Explosion Hazards: Container explosion may occur under fire conditions. May form explosive mixtures with air

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

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

#### SPECIFIC METHOD(S) OF FIRE FIGHTING

Use water spray to cool fire-exposed containers.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

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

#### METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

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

#### STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame.

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### 8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	100 MG/M3
Poland		NDSCh	350 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - EUROPEAN UNION

Source	Type	Value
OEL	OEL	221 mg/m3 50 ppm

Remarks: Skin

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	109 mg/m3 25 ppm

Remarks: H

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	440 mg/m3 100 ppm

Remarks: 4

Remarks: H

EXPOSURE LIMITS - NORWAY

Source	Type	Value
	OEL	108 mg/m3 25 ppm

Remarks: H

EXPOSURE LIMITS - SWEDEN

Source	Type	Value
	LLV (Level	200 mg/m3 50 ppm

Remarks: H

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	435 mg/m3 100 ppm

Remarks: M D H\*

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	TWA	441 mg/m3 100 ppm
OEL	STEL	150 ppm

Remarks: Skin

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.  
Hand Protection: Compatible chemical-resistant gloves.  
Eye Protection: Chemical safety goggles.

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## 9 - Physical and Chemical Properties

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Appearance	Physical State: Liquid Color: Colorless	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	136 - 140 °C	
MP/MP Range	N/A	
Flash Point	25 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	464 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 1.1 % Upper: 7 %	
Vapor Pressure	18 mmHg	37.7 °C
SG/Density	0.865 g/cm <sup>3</sup>	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	3.7 g/l	
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	
Solubility	N/A	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## 11 - Toxicological Information

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RTECS NUMBER: ZE2100000

### ACUTE TOXICITY

LDLO  
Oral  
Human  
50 mg/kg

LCLO  
Inhalation  
Man  
10,000 ppm  
6H

Remarks: Behavioral:General anesthetic. Lungs, Thorax, or  
Respiration:Cyanosis. Blood:Other changes.

LD50

Oral

Rat

4300 mg/kg

Remarks: Liver:Other changes. Kidney, Ureter, Bladder:Other  
changes.

LC50

Inhalation

Rat

5,000 ppm

4H

LD50

Intraperitoneal

Rat

2459 MG/KG

LD50

Subcutaneous

Rat

1700 MG/KG

LD50

Oral

Mouse

2119 mg/kg

LD50

Intraperitoneal

Mouse

1548 MG/KG

LD50

Skin

Rabbit

> 1700 mg/kg

LD50

Oral

Mammal

4300 mg/kg

LC50

Inhalation

Mammal

30,000 mg/m3

#### IRRITATION DATA

Eyes

Human

200 ppm

Skin

Rabbit

100 %

Remarks: Moderate irritation effect

Skin  
Rabbit  
500 mg  
24H  
Remarks: Moderate irritation effect

Eyes  
Rabbit  
87 mg  
Remarks: Mild irritation effect

Eyes  
Rabbit  
5 mg  
24H  
Remarks: Severe irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: CNS depression. Dermatitis. Anorexia. Dyspnea. Bronchitis. Tremors. Blurred vision. Incoordination. Headache. Nausea. Vomiting. Dizziness. Weakness. Anemia. Prolonged or repeated exposure to skin causes defatting and dermatitis.

#### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.  
Skin Absorption: Harmful if absorbed through skin.  
Eye Contact: Causes severe eye irritation.  
Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
Ingestion: May be harmful if swallowed.

#### TARGET ORGAN INFORMATION

Nerves. Liver. Kidneys. Blood. Eyes. Ears. Heart. Bone marrow.

#### CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

#### IARC CARCINOGEN LIST

Rating: Group 3

#### CHRONIC EXPOSURE - TERATOGEN

Result: Laboratory experiments have shown teratogenic effects.

Species: Rat  
Dose: 250 MG/M3/24H  
Route of Application: Inhalation  
Exposure Time: (7-15D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rat  
Dose: 50 MG/M3/6H  
Route of Application: Inhalation  
Exposure Time: (1-21D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Other developmental abnormalities. Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rat  
Dose: 200 PPM/6H  
Route of Application: Inhalation  
Exposure Time: (4-20D PREG)  
Result: Specific Developmental Abnormalities: Musculoskeletal system. Effects on Newborn: Behavioral.

Species: Mouse  
Dose: 20600 UG/KG  
Route of Application: Oral  
Exposure Time: (6-15D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse  
Dose: 2000 PPM/6H  
Route of Application: Inhalation  
Exposure Time: (6-12D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse  
Dose: 1 GM/M3/12H  
Route of Application: Inhalation  
Exposure Time: (6-15D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.

Species: Rabbit  
Dose: 500 MG/M3/24H  
Route of Application: Inhalation  
Exposure Time: (7-20D PREG)  
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat  
Dose: 50 MG/M3/6H  
Route of Application: Inhalation  
Exposure Time: (1-21D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Craniofacial (including nose and tongue).

Species: Mouse  
Dose: 31 MG/KG  
Route of Application: Oral  
Exposure Time: (6-15D PREG)  
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Mouse  
Dose: 4000 PPM/6H  
Route of Application: Inhalation  
Exposure Time: (6-12D PREG)

Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain). Effects on Newborn: Physical.

Species: Rabbit  
Dose: 1 GM/M3/24H  
Route of Application: Inhalation  
Exposure Time: (7-20D PREG)  
Result: Effects on Fertility: Abortion.

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## 12 - Ecological Information

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No data available.

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## 13 - Disposal Considerations

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### SUBSTANCE DISPOSAL

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

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## 14 - Transport Information

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### RID/ADR

UN#: 1307  
Class: 3  
PG: III  
Proper Shipping Name: Xylenes

### IMDG

UN#: 1307  
Class: 3  
PG: III  
Proper Shipping Name: Xylenes  
Marine Pollutant: No  
Severe Marine Pollutant: No

### IATA

UN#: 1307  
Class: 3  
PG: III  
Proper Shipping Name: Xylenes  
Inhalation Packing Group I: No

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 601-022-00-9  
NOTA: C  
INDICATION OF DANGER: Xn  
Harmful.  
R-PHRASES: 10 20/21 38  
Flammable. Harmful by inhalation and in contact with skin.  
Irritating to skin.  
S-PHRASES: 25  
Avoid contact with eyes.

### COUNTRY SPECIFIC INFORMATION

#### Germany

WGK: 2

SWITZERLAND

SWISS POISON CLASS: 4

NORWAY

Labelling for organic solvents where the package is 1 liter or more.

YL-tall m3/l: 7962

YL-group: 5

Safety phrases: 38 42 210

In case of insufficient ventilation, wear suitable respiratory equipment. During fumigation/spraying wear suitable respiratory equipment. Use compressed air- or fresh air line breathing apparatus in confined spaces.

Declaration Number: 67463

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16 - Other Information

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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 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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