



## HYDRANAL™ Titrant 2

34811-1L


Version 1.8

Revision Date 01.11.2022

Flammable liquids Category 2  
H225 Highly flammable liquid and vapour.  
Acute toxicity Category 3 - Oral  
H301 Toxic if swallowed.  
Acute toxicity Category 3 - Inhalation  
H331 Toxic if inhaled.  
Acute toxicity Category 3 - Dermal  
H311 Toxic in contact with skin.  
Specific target organ toxicity - single exposure Category 1  
H370 Causes damage to organs.  
Specific target organ toxicity - repeated exposure Category 2  
H373 May cause damage to organs through prolonged or repeated exposure.

### 2.2. Label elements

#### REGULATION (EC) No 1272/2008

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H225 Highly flammable liquid and vapour. H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled. H370 Causes damage to organs. H373 May cause damage to organs through prolonged or repeated exposure.
Precautionary statements	:	P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 In case of inadequate ventilation wear respiratory protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of water. P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P313 IF exposed or concerned: Get medical advice/ attention.

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Hazardous components : methanol  
which must be listed on the iodine  
label

### 2.3. Other hazards

Do not breathe vapours or spray mist.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Chemical name	CAS-No. Index-No. REACH Registration Number EC-No.	Classification 1272/2008	Concentration	Remarks
methanol	67-56-1 603-001-00-X 200-659-6	Flam. Liq. 2; H225 Acute Tox. 3; H331; Inhalation Acute Tox. 3; H311; Dermal Acute Tox. 3; H301; Oral STOT SE 1; H370	>= 90 % - < 100 %	STOT SE 2; H371:3 - < 10 % STOT SE 1; H370:>= 10 % STOT SE 1; H370:>= 10 % STOT SE 2; H371:3 - < 10 %
iodine	7553-56-2 053-001-00-3 231-442-4	Acute Tox. 4; H302; Oral Acute Tox. 4; H332; Inhalation Acute Tox. 4; H312; Dermal Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335; Respiratory system STOT RE 1; H372 Aquatic Acute 1; H400	>= 1 % - < 10 %	

Remaining components of this product are non-hazardous and/or are present at concentrations below reportable limits.

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Occupational Exposure Limit(s), if available, are listed in Section 8.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

*General advice:*

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.

*Inhalation:*

Call a physician immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present.

*Skin contact:*

Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician.

*Eye contact:*

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician.

*Ingestion:*

Call a physician immediately. Do NOT induce vomiting. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

#### 4.2. Most important symptoms and effects, both acute and delayed

No data available

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

See Section 11 for more detailed information on health effects and symptoms.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

*Suitable extinguishing media:*

Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry powder

*Extinguishing media which shall not be used for safety reasons:*

Do not use a solid water stream as it may scatter and spread fire.

#### 5.2. Special hazards arising from the substance or mixture

Flammable.

Vapours may form explosive mixtures with air.

Vapours are heavier than air and may spread along floors.

Vapors may travel to areas away from work site before igniting/flashing back to vapor source.

In case of fire hazardous decomposition products may be produced such as:

Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Formaldehyde

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

Use water spray to cool unopened containers. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Remove all sources of ignition. Wear personal protective equipment. Unprotected persons must be kept away.

#### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

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### 6.3. Methods and materials for containment and cleaning up

Use explosion-proof equipment.  
Soak up with inert absorbent material.  
Pick for disposal in tightly closed containers  
Personal protection through wearing a tightly closed chemical protection suit and a self-contained breathing apparatus.  
Use only non-sparking tools.

### 6.4. Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

*Advice on safe handling:*

Wear personal protective equipment. Use only in well-ventilated areas.

*Advice on protection against fire and explosion:*

Keep product and empty container away from heat and sources of ignition. No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

*Hygiene measures:*

Separate rooms are required for washing, showering and changing clothes. When using, do not eat, drink or smoke. Keep working clothes separately. Wash hands before breaks and at the end of workday. When using do not eat or drink.

### 7.2. Conditions for safe storage, including any incompatibilities

*Requirements for storage areas and containers:*

Keep only in the original container, tightly closed, in a well ventilated place. Store at room temperature. (Ambient temperature:  $> 0 < 35^{\circ}\text{C}$ ) Protect from atmospheric moisture and water.

### 7.3. Specific end use(s)

no additional data available

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**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits:**

Components	Basis / Value type	Value / Form of exposure	Exceeding Factor	Remarks
methanol	EH40 WEL STEL	333 mg/m3 250 ppm		
methanol	EH40 WEL TWA	266 mg/m3 200 ppm		
methanol	EH40 WEL SKIN_DES			Can be absorbed through the skin.
methanol	EU ELV SKIN_DES			Can be absorbed through the skin.
methanol	EU ELV TWA	260 mg/m3 200 ppm		Indicative
methanol	EH40 WEL STEL	333 mg/m3 250 ppm	15 minutes	
methanol	EH40 WEL STEL	333 mg/m3 250 ppm	15 minutes	
iodine	EH40 WEL			Listed
iodine	EH40 WEL STEL	1,1 mg/m3 0,1 ppm		

STEL - Short term exposure limit

TWA - Time weighted average

SKIN\_DES - Skin designation:

**DNEL/ PNEC-Values**

Component	End-use/impact	Exposure duration	Value	Exposure routes	Remarks
methanol	Consumers / Acute systemic effects		8mg/kg bw/d	Skin contact	

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methanol	Workers / Acute systemic effects		40mg/kg bw/d	Skin contact	
methanol	Consumers / Long-term systemic effects		8mg/kg bw/d	Skin contact	
methanol	Workers / Long-term systemic effects		40mg/kg bw/d	Skin contact	
methanol	Consumers / Acute local effects		50 mg/m3	Inhalation	
methanol	Workers / Acute local effects		260 mg/m3	Inhalation	
methanol	Consumers / Acute systemic effects		50 mg/m3	Inhalation	
methanol	Workers / Acute systemic effects		260 mg/m3	Inhalation	
methanol	Consumers / Long-term local effects		50 mg/m3	Inhalation	
methanol	Workers / Long-term local effects		260 mg/m3	Inhalation	
methanol	Consumers / Long-term systemic effects		50 mg/m3	Inhalation	
methanol	Workers / Long-term systemic effects		260 mg/m3	Inhalation	
methanol	Consumers /		8mg/kg	Ingestion	



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	Acute systemic effects		bw/d		
methanol	Consumers / Long-term systemic effects		8mg/kg bw/d	Ingestion	
iodine	Workers / Long-term systemic effects		0,07 mg/m3	Inhalation	
iodine	Workers / Long-term systemic effects		0,01mg/kg bw/d	Skin contact	

Component	Environmental compartment / Value	Remarks
methanol	Sewage treatment plant: 100 mg/l	
methanol	Fresh water: 20,8 mg/l	Assessment factor: 10
methanol	Marine water: 2,08 mg/l	Assessment factor: 100
methanol	Fresh water sediment: 77 mg/kg	
methanol	Marine sediment: 7,7 mg/kg	
methanol	Soil: 100 mg/kg	Assessment factor: 100
iodine	Fresh water sediment: 0,01813 mg/l	
iodine	Marine water: 0,06001 mg/l	
iodine	Sewage treatment plant: 11 mg/l	Assessment factor: 10
iodine	Fresh water sediment: 3,99 mg/kg dw	
iodine	Marine sediment: 20,22 mg/kg dw	
iodine	Soil: 5,95 mg/kg dw	

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### 8.2. Exposure controls

#### Occupational exposure controls

Do not breathe vapours/dust.

Take off all contaminated clothing immediately.

The Personal Protective Equipment must be in accordance with EN standards:respirator EN 136, 140, 149; safety glasses EN 166; protective suit: EN 340, 463, 468, 943-1, 943-2; gloves EN 374, 511; safety shoes EN-ISO 20345.

#### Engineering measures

Use with local exhaust ventilation.

Electrical equipment should be protected to the appropriate standard.

#### Personal protective equipment

##### *Respiratory protection:*

In the case of vapour formation use a respirator with an approved filter.

##### *Hand protection:*

Glove material: butyl-rubber

Break through time: > 480 min

Glove thickness: 0,7 mm

Butoject® 898

Gloves must be inspected prior to use.

Replace when worn.

Remarks:Supplementary note: The specifications are based on information and tests from similar substances by analogy.

Due to varying conditions ( e.g.temperature or other strains) it must be considered that the usage of a chemical protective glove in practice may be much shorter than the permeation time determined in accordance with EN 374.

Since actual conditions of practical use often deviate from standardised conditions according EN 374 the glove manufacturer recommends to use the chemical protective glove in practice not longer than 50% of the recommended permeation time.

Manufacturer´s directions for use should be observed because of great diversity of types .

Suitable gloves tested according EN 374 are supplied e.g. from KCL GmbH, D-36124 Eichenzell, Vertrieb@kcl.de

##### *Eye protection:*

Safety goggles

##### *Skin and body protection:*

Protective suit

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### Environmental exposure controls

Handle in accordance with local environmental regulations and good industrial practices.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: liquid
Colour	: brown
Odour	: aromatic
Melting point/range	: -98 °C
Boiling point/boiling range	: 65 °C at 1.013 hPa
Upper explosion limit	: 31 %(V)
Lower explosion limit	: 5,5 %(V)
Flash point	: 11 °C
Auto-ignition temperature	: 450 °C
Decomposition temperature	: No decomposition if used as directed.
pH	: neutral
Viscosity, kinematic	: No data available
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: No data available
Vapour pressure	: 128 hPa at 20 °C

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Density : ca. 0,800 g/cm<sup>3</sup>  
at 20 °C

Relative vapour density : No data available

### 9.2 Other Information

The physical data is that of the main component.

Evaporation rate : No data available

Viscosity, dynamic : No data available

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under recommended storage conditions.

### 10.2. Chemical stability

No decomposition if used as directed.

### 10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.  
Vapours may form explosive mixture with air.

### 10.4. Conditions to avoid

Heat, flames and sparks.  
Keep away from direct sunlight.

### 10.5. Incompatible materials

Oxidizing agents

### 10.6. Hazardous decomposition products

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In case of fire hazardous decomposition products may be produced such as:

Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
Formaldehyde

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

*Acute oral toxicity:*

No data available

*Acute dermal toxicity:*

No data available

*Acute inhalation toxicity:*

No data available

*Skin irritation:*

No data available

*Eye irritation:*

No data available

*Respiratory or skin sensitisation:*

No data available

*Aspiration hazard:*

No data available

#### 11.2. Information on other hazards

Endocrine disrupting properties

No data available

*Other information:*

No data available

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### SECTION 12: Ecological information

#### 12.1. Toxicity

*Toxicity to fish:*

No data available

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*Toxicity to aquatic plants:*

No data available

*Toxicity to aquatic invertebrates:*

No data available

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

Do not flush into surface water or sanitary sewer system.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

*Product:*

Dispose according to legal requirements.

*Packaging:*

Legal requirements are to be considered in regard of reuse or disposal of used packaging materials

*Further information:*

Provisions relating to waste:  
EC Directive 2006/12/EC; 2008/98/EEC  
Regulation No. 1013/2006

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For personal protection see section 8.

**SECTION 14: Transport information**

**14.1 UN number**

ADR/RID:1230

IMDG:1230

IATA:1230

**14.2 UN proper shipping name**

ADR/RID:METHANOL SOLUTION

IMDG:METHANOL SOLUTION

IATA:Methanol solution

**14.3 Transport hazard class(es)**

ADR/RID: 3 (6.1)

IMDG: 3 (6.1)

IATA: 3 (6.1)

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID:no

Marine pollutant: no

**14.6 Special precautions for user**

IMDG Code segregation group according chapter 3.1.4.4 : NONE,

**14.7 Maritime transport in bulk according to IMO instruments**

No data available

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Basis	Value	Remarks
Directive 2012/18/EC Listed in Regulation : H2: ACUTE TOXIC	<b>Quantity:</b> 50.000 kg <b>Quantity:</b> 200.000 kg	
Directive 2012/18/EC Listed in Regulation : P5c: FLAMMABLE LIQUIDS	<b>Quantity:</b> 5.000.000 kg <b>Quantity:</b> 50.000.000 kg	
Regulation (EC) No. 1907/2006, Annex XVII		This product contains an ingredient according to Annex XVII of the

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		REACH Regulation 1907/2006/EC.
Substances of very high concern (SVHC)		This product does not contain substances of very high concern according to Regulation (EC) No Article 57 above the respective regulatory 1907/2006 (REACH), concentration limit of $\geq 0.1\%$ (w/w).

**Poison Control Center**

Country	Phone Number
Austria	+4314064343
Belgium	070 245245
Bulgaria	(+)35929154233
Croatia	(+3851)23-48-342
Cyprus	+357 2240 5611
Czech Republic	+420224919293; +420224915402
Denmark	82121212
Estonia	16662; (+372)6269390
Finland	9471977
France	+33(0)145425959
Greece	+30 210 779 3777
Hungary	(+36-80)201-199
Iceland	5432222
Ireland	+353(1)8092166
Italy	0382 24444
Germany	Berlin : 030/19240
	Bonn : 0228/19240
	Erfurt : 0361/730730
	Freiburg : 0761/19240

Country	Phone Number
Liechtenstein	+41 442515151
Lithuania	+370532362052
Luxembourg	070245245; (+352)80002-5500
Malta	+356 2395 2000
Netherlands	030-2748888
Norway	22591300
Poland	+48 42 25 38 400
Portugal	800250250
Romania	+40 21 318 3606
Slovakia (NTIC)	+421 2 54 774 166
Slovenia	+386 1 400 6051
Spain	+34915620420
Sweden	112 (begär Giftinformation); +46104566786
Switzerland	145
United Kingdom	(+44) 844 892 0111



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	Göttingen : 0551/19240
	Homburg : 06841/19240
	Mainz : 06131/19240
	Munich : 089/19240
Latvia	+37167042473

### Other inventory information

US. Toxic Substances Control Act  
On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIIC), as amended  
On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)  
All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List  
On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI)  
On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS)  
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC)  
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand  
On the inventory, or in compliance with the inventory

Taiwan Chemical Substance Inventory (TCSI)  
On the inventory, or in compliance with the inventory

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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**SECTION 16: Other information**

**Text of H-statements referred to under heading 3**

methanol	:	H225	Highly flammable liquid and vapour.
		H331	Toxic if inhaled.
		H311	Toxic in contact with skin.
		H301	Toxic if swallowed.
		H370	Causes damage to organs.
iodine	:	H302	Harmful if swallowed.
		H332	Harmful if inhaled.
		H312	Harmful in contact with skin.
		H315	Causes skin irritation.
		H319	Causes serious eye irritation.
		H335	May cause respiratory irritation.
		H372	Causes damage to organs through prolonged or repeated exposure.
		H400	Very toxic to aquatic life.

**Further information**

All directives and regulations refer to amended versions.  
Vertical lines in the left hand margin indicate a relevant amendment from the previous version.

Abbreviations:

EC European Community  
CAS Chemical Abstracts Service  
DNEL Derived no effect level  
PNEC Predicted no effect level  
vPvB Very persistent and very biaccumulative substance  
PBT Persistent, bioaccumulative und toxic substance

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

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