

HYDRANAL™ KetoSolver**34738-500ML**

Version 1.1

Revision Date 02/27/2020

Print Date 05/12/2023

SECTION 1. IDENTIFICATION

Product name : HYDRANAL™ KetoSolver

Number : 000000020509

Product Use Description : Laboratory chemicals
Scientific research and development

Manufacturer or supplier's details : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
+1-231-726-3171 (Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or**
: **+1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : colourless

Odor : slight, original odour

Classification of the substance or mixture

Classification of the substance or mixture : Flammable liquids, Category 2
Skin irritation, Category 2
Eye irritation, Category 2A
Reproductive toxicity, Category 1B
Specific target organ toxicity - single exposure, Category 3,
Central nervous system

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GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May damage fertility or the unborn child.

Precautionary statements

: **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.**Response:**IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.

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Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Keep cool.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

ACGIH: Ethanol 64-17-5
A3: Confirmed animal carcinogen

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
1-Methoxypropan-2-ol	107-98-2	>=70.00 - <90.00 %
Ethanol	64-17-5	>=10.00 - <20.00 %
Imidazole	288-32-4	>=1.00 - <5.00 %
Imidazol hydrobromide	101023-55-6	>=1.00 - <5.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous

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area. Take off all contaminated clothing immediately.

- Inhalation : Move to fresh air. If symptoms persist, call a physician.
- Skin contact : Wash off immediately with plenty of water. Call a physician if irritation develops or persists.
- Eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Protect unharmed eye.
- Ingestion : When swallowed, allow water to be drunk. Do NOT induce vomiting. Call a physician immediately.

Notes to physician

- Most important symptoms/effects, acute and delayed : No information available.
- Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO2)
Dry powder
- Unsuitable extinguishing media : High volume water jet
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
- Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, : Remove all sources of ignition.

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protective equipment and
emergency proceduresEnsure adequate ventilation.
Evacuate personnel to safe areas.

Environmental precautions

: Should not be released into the environment.

Methods and materials for
containment and cleaning
up: Soak up with inert absorbent material (e.g. sand, silica gel, acid
binder, universal binder, sawdust).
Pick for disposal in tightly closed containers**SECTION 7. HANDLING AND STORAGE****Handling**Precautions for safe
handling: Avoid exposure - obtain special instructions before use.
Exhaust ventilation at the object is necessary.Advice on protection against
fire and explosion: Keep away from sources of ignition - No smoking.
Take measures to prevent the build up of electrostatic charge.
Normal measures for preventive fire protection.**Storage**Conditions for safe storage,
including any
incompatibilities: Keep only in the original container, tightly closed, in a well
ventilated place.
Store at room temperature.
(Ambient temperature: > 0 < 35°C)
Protect from atmospheric moisture and water.**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Protective measures

: Ensure that eyewash stations and safety showers are close to
the workstation location.
Legal requirements are to be considered in regard of the
selection, use and care of personal protective equipment.
Avoid exposure - obtain special instructions before use.

Engineering measures

: Use with local exhaust ventilation.

Eye protection

: Safety goggles

Hand protection

: Impervious butyl rubber gloves

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Gloves must be inspected prior to use.
Replace when worn.

- Skin and body protection : Protective suit
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
- Hygiene measures : Take off all contaminated clothing immediately.
Remove and wash contaminated clothing before re-use.
Wash hands before breaks and at the end of workday.
When using do not eat or drink.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
1-Methoxypropan-2-ol	107-98-2	TWA : Time weighted average	(50 ppm)	02 2013	ACGIH:US. ACGIH Threshold Limit Values, as amended
1-Methoxypropan-2-ol	107-98-2	STEL : Short term exposure limit	(100 ppm)	02 2013	ACGIH:US. ACGIH Threshold Limit Values, as amended
1-Methoxypropan-2-ol	107-98-2	REL : Recommended exposure limit (REL):	360 mg/m3 (100 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
1-Methoxypropan-2-ol	107-98-2	STEL : Short term exposure limit	540 mg/m3 (150 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended

SAFETY DATA SHEET



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1-Methoxypropan-2-ol	107-98-2	STEL : Short term exposure limit	540 mg/m3 (150 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
1-Methoxypropan-2-ol	107-98-2	TWA : Time weighted average	360 mg/m3 (100 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
Ethanol	64-17-5	STEL : Short term exposure limit	(1,000 ppm)	2009	ACGIH:US. ACGIH Threshold Limit Values, as amended
Ethanol	64-17-5	REL : Recommended exposure limit (REL):	1,900 mg/m3 (1,000 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Ethanol	64-17-5	PEL : Permissible exposure limit	1,900 mg/m3 (1,000 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
Ethanol	64-17-5	TWA : Time weighted average	1,900 mg/m3 (1,000 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

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Color	: colourless
Odor	: slight, original odour
Odor threshold	: Note: no data available
pH	: Note: no data available
Melting point/range	: Note: no data available
Boiling point/boiling range	: 85 °C at 1,013 hPa
Flash point	: 70 °F (21 °C)
Evaporation rate	: Note: no data available
Lower explosion limit	: Note: no data available
Upper explosion limit	: Note: no data available
Vapor pressure	: Note: no data available
Vapor density	: Note: no data available
Density	: 0.910 g/cm ³ at 20 °C
Water solubility	: Note: completely miscible
Partition coefficient: n-octanol/water	: Note: no data available

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Ignition temperature : Note: no data available

Decomposition temperature : Note: No decomposition if used as directed.

Viscosity, dynamic : Note: no data available

Viscosity, kinematic : Note: no data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Protect from atmospheric moisture and water.
Heat, flames and sparks.

Incompatible materials : Strong oxidizing agents
Alkali metals
Ammonia
Peroxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Acute inhalation toxicity
1-Methoxypropan-2-ol : LC50: > 6,000 - 54,600 mg/m³ , vapour
Exposure time: 4 h
Species: Rat

Ethanol : LC50: 20000 ppm

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Exposure time: 10 h
Species: RatAcute dermal toxicity
1-Methoxypropan-2-ol: LD50: 13,000 - 14,000 mg/kg
Species: RabbitSkin irritation
1-Methoxypropan-2-ol: Species: Rabbit
Result: slight irritation
Method: Draize Test

Ethanol

: Species: Rabbit
Result: Irritating to skin.
Exposure time: 24 h

Imidazole

: Species: Rabbit
Result: Causes burns.
Method: OECD Test Guideline 404Eye irritation
1-Methoxypropan-2-ol: Species: Rabbit
Result: slight irritationSpecies: human
Note: Vapours may be irritating to eyes, nose, throat, and lungs.

Ethanol

: Species: Rabbit
Result: Irritating to eyes.
Exposure time: 24 h

Imidazole

: Species: Rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405Sensitisation
1-Methoxypropan-2-ol: Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

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Repeated dose toxicity
1-Methoxypropan-2-ol

: Species: Rat, male and female
Application Route: Inhalation
Exposure time: (13 Weeks)
NOEL: 1000 ppm

Species: Rat, male and female
Application Route: Inhalation
Exposure time: (13 Weeks)
Lowest observed effect level: 3000 ppm

Genotoxicity in vitro
Imidazole

: Test Method: In vitro mammalian cell gene mutation test
Cell type: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476

: Test Method: reverse mutation assay
Cell type: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo
Imidazole

: Test Method: Micronucleus test
Species: Mouse, male and female
Cell type: Bone marrow
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Teratogenicity
Imidazole

: Species: Rat Application Route: Oral

No observed adverse effect level: 60 mg/kg body weight
No observed adverse effect level: 60 mg/kg body weight
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the offspring were detected.

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Further information

Ethanol

: Confirmed animal carcinogen with unknown relevance to humans.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish

1-Methoxypropan-2-ol

: LC50: 20,800 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)

static test

LC50: 4,600 - 10,000 mg/l

Exposure time: 96 h

Species: Leuciscus idus (Golden orfe)

Method: DIN 38412

Ethanol

: LC0: 8,140 mg/l
Exposure time: 48 h
Species: Leuciscus idus (Golden orfe)

flow-through test

LC50: 12,900 mg/l

Exposure time: 96 h

Species: Oncorhynchus mykiss (rainbow trout)

LC50: 14,200 mg/l

Exposure time: 96 h

Species: Pimephales promelas (fathead minnow)

Imidazole

: static test
LC50: 283.6 mg/l
Exposure time: 48 h
Species: Leuciscus idus (Golden orfe)

Toxicity to daphnia and other aquatic invertebrates

1-Methoxypropan-2-ol

: static test
EC50: 23,300 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

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Ethanol	: EC50: 9,268 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
	EC50: 10,800 mg/l Exposure time: 24 h Species: Daphnia magna (Water flea)
Imidazole	: static test EC50: 341.5 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: Directive 67/548/EEC, Annex V, C.2.
Toxicity to algae 1-Methoxypropan-2-ol	: EC50: > 1,000 mg/l Exposure time: 7 d Species: Pseudokirchneriella subcapitata (green algae)
Ethanol	: LC0: 5,000 mg/l Species: Scenedesmus quadricauda (Green algae)
Imidazole	: static test EC50: 133 mg/l Exposure time: 72 h Species: Desmodesmus subspicatus (green algae) Method: DIN 38412
Toxicity to bacteria Ethanol	: LC0: 6,500 mg/l Species: Pseudomonas putida
	EC50: 35,470 mg/l Exposure time: 5 min Species: Photobacterium phosphoreum
	EC50: 34,634 mg/l Exposure time: 30 min Species: Photobacterium phosphoreum
Biodegradability	

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1-Methoxypropan-2-ol : aerobic
Result: Readily biodegradable
Value: 90 %
Method: OECD 301 E

Imidazole : Result: Readily biodegradable.
Method: OECD Test Guideline 301A

Further information on ecology

Additional ecological : no data available
information

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental
regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No. : UN 1993
Proper shipping name : Flammable liquids, n.o.s.
(1-Methoxy-2-propanol, Ethanol)
Class : 3
Packing group : II
Hazard Labels : 3

IATA UN/ID No. : UN 1993
Description of the goods : Flammable liquids, n.o.s.
(1-Methoxy-2-propanol, Ethanol)
Class : 3
Packaging group : II
Hazard Labels : 3
Packing instruction (cargo : 364
aircraft)
Packing instruction : 353
(passenger aircraft)
Packing instruction : Y341
(passenger aircraft)

IMDG UN/ID No. : UN 1993

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Description of the goods : Flammable liquids, n.o.s.
(1-METHOXY-2-PROPANOL, ETHANOL)

Class : 3

Packaging group : II

Hazard Labels : 3

EmS Number : F-E, S-E

Marine pollutant : no

IMDG Code segregation group according chapter 3.1.4.4 : NONE,

SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

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

Note : Note: Because of the potential specific inventory listing of components of this product line, further, more detailed information can be requested from SafetyDataSheet@Honeywell.com.

National regulatory information

TSCA : This material must be used in compliance with the TSCA Research and Development Exemption requirements (40 CFR 720.36).

:

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

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California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts RTK : Ethanol 64-17-5
: 1-Methoxypropan-2-ol 107-98-2

New Jersey RTK : 1-Methoxypropan-2-ol 107-98-2
: Ethanol 64-17-5

Pennsylvania RTK : 1-Methoxypropan-2-ol 107-98-2
: Ethanol 64-17-5

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2*	2
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Previous Issue Date: 09/20/2016

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group