HYDRANAL™-Coulomat AG-Oven

34739-500ML-US

SECTION 1. IDENTIFICATION

Product name	:	HYDRANAL™-Coulomat AG-Oven
Number	:	000000020510
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	:	light yellow
Odor	:	slight, original odour

Classification of the substance or mixture

Classification of the substance or mixture	:	Flammable liquids, Category 2 Acute toxicity, Category 4, Inhalation Serious eye damage, Category 1 Reproductive toxicity, Category 1B Specific target organ toxicity - single exposure, Category 1, Eyes, Nervous system, Systemic toxicity Specific target organ toxicity - repeated exposure, Category 2, Liver, Blood, Kidney

GHS Label elements, including precautionary statements

Symbol(s) :

Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
Causes serious eye damage.
Harmful if inhaled.
May damage fertility or the unborn child.
Causes damage to organs.
May cause damage to organs through prolonged or repeated exposure.

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.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
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.
Immediately call a POISON CENTER/doctor.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:
Store in a well-ventilated place. Keep cool.
Store locked up.

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

Carcinogenicity

IARC:	Diethanolamine	111-42-2
	Group 2B: Possibly carcinogenic to humans	
ACGIH:	Diethanolamine	111-42-2
	A3: Confirmed animal carcinogen	

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture

Chemical name	CAS-No.	Concentration
Methanol	67-56-1	>=50.00 - <70.00 %
Propane-1,2-diol	57-55-6	>=20.00 - <30.00 %
Diethanolamine	111-42-2	>=10.00 - <20.00 %
Imidazole	288-32-4	>=5.00 - <10.00 %
Sulphur dioxide	7446-09-5	>=5.00 - <10.00 %
1H-Imidazole monohydriodide	68007-08-9	>=5.00 - <10.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation : Remove to fresh air. Keep patient warm and at rest. Call a physician immediately.

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

Risks	:	Health injuries may be delayed.
Most important symptoms/effects, acute and delayed	:	Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Causes damage to organs through prolonged or repeated exposure. May cause blindness.
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	:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards during firefighting	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2) nitrogen oxides (NOx) Sulphur oxides Hydrogen halides
Special protective equipment	:	Wear an approved positive pressure self-contained breathing

for firefighters		apparatus in addition to standard fire fighting gear.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition.
Environmental precautions	:	Should not be released into the environment.
Methods and materials for containment and cleaning up	:	Ventilate the area. Do not use sparking tools. Use explosion-proof equipment. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling	:	Wear personal protective equipment. Use only in well-ventilated areas. Avoid exposure - obtain special instructions before use.
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.

Storage

Conditions for safe storage, including any incompatibilities	:	Store in area designed for storage of flammable liquids. Protect from physical damage. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container.
Advice on common storage	:	Do not store together with: Oxidizing agents

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. Do not breathe vapours or spray mist.
Engineering measures	:	Use with local exhaust ventilation. Prevent vapour buildup by providing adequate ventilation during and after use.
Eye protection	:	Safety goggles
Hand protection	:	Impervious butyl rubber gloves 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. Recommended Filter type: AX: Organic gas and low boiling vapour type

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
Methanol	67-56-1	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	STEL : Short term exposure limit	(250 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	TWA : Time weighted average	(200 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards

Methanol	67-56-1	REL : Recommended exposure limit (REL):	260 mg/m3 (200 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Methanol	67-56-1	PEL : Permissible exposure limit	260 mg/m3 (200 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Methanol	67-56-1	SKIN_FINAL : Skin designation (Final Rule Limit applies):	Can be absorbed through the skin.	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	STEL : Short term exposure limit	325 mg/m3 (250 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Methanol	67-56-1	TWA : Time weighted average	260 mg/m3 (200 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Propane-1,2-diol	57-55-6	TWA : Time weighted average	10 mg/m3	2007	WEEL:US. OARS. WEELs Workplace Environmental Exposure Level Guide

Further information	:	Form of exposure : Aerosol.

Diethanolamine	111-42-2	TWA : Time weighted average	1 mg/m3	2009	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Inhalable fraction and vapor.			

Diethanolamine	111-42-2	SKIN_DES : Skin designation:	Can be absorbed through the skin.	2009	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Inhalable fraction and vapor.			

Diethanolamine	111-42-2	REL : Recommended exposure limit (REL):	15 mg/m3 (3 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards

Diethanolamine	111-42-2	TWA : Time weighted average	15 mg/m3 (3 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

Sulphur dioxide	7446-09-5	STEL : Short term exposure limit	(0.25 ppm)	2009	ACGIH:US. ACGIH Threshold Limit Values

Sulphur dioxide	7446-09-5	STEL : Short term exposure limit	13 mg/m3 (5 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Sulphur dioxide	7446-09-5	REL : Recommended exposure limit (REL):	5 mg/m3 (2 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
Sulphur dioxide	7446-09-5	PEL : Permissible exposure limit	13 mg/m3 (5 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Sulphur dioxide	7446-09-5	STEL : Short term exposure limit	13 mg/m3 (5 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
Sulphur dioxide	7446-09-5	TWA : Time weighted average	5 mg/m3 (2 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : light yellow

Odor : slight, original odour

Odor threshold	:	Note: no data available
pH	:	6.0 - 7.0 at , 20 °C
Melting point/range	:	Note: no data available
Boiling point/boiling range	:	64 °C at 1,013 hPa
Flash point	:	55 °F (13 °C)
Evaporation rate	:	Note: no data available
Flammability	:	Not applicable
Lower explosion limit	:	Note: not determined
Upper explosion limit	:	Note: not determined
Vapor pressure	:	Note: no data available
Vapor density	:	Note: no data available
Density	:	0.980 g/cm3 at 20 °C
Water solubility	:	Note: completely miscible
Partition coefficient:	:	Note: no data available

n-octanol/water		
Ignition temperature	:	Note: not determined
Decomposition temperature	:	Note: No decomposition if used as directed.
Viscosity, dynamic	:	Note: no data available
Viscosity, kinematic	:	Note: no data available
Oxidizing properties	:	Note: Not applicable

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Hazardous polymerisation does not occur.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Oxidizing agents Zinc Copper Iron Alkali metals
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO2) nitrogen oxides (NOx) Sulphur oxides Hydrogen halides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	:	Note: Toxic if swallowed. The product has not been tested. The information is derived from the properties of the individual components.
Acute inhalation toxicity	:	Note: Toxic by inhalation. The product has not been tested. The information is derived from the properties of the individual components.
Acute dermal toxicity	:	Note: Toxic in contact with skin. The product has not been tested. The information is derived from the properties of the individual components.
Skin irritation	:	Result: No skin irritation
Eye irritation	:	Result: Risk of serious damage to eyes. Note: The product has not been tested. The information is derived from the properties of the individual components.
Sensitisation		
Propane-1,2-diol	:	Species: human Note: Patch test on human volunteers did not demonstrate sensitisation properties.
Diethanolamine	:	Maximisation Test Species: Guinea pig Result: Did not cause sensitisation on laboratory animals. Method: OECD Test Guideline 406
1H-Imidazole	:	Mouse local lymph node assay

monohydriodide		Species: Mouse Result: Does not cause skin sensitisation. Method: OECD 429
Repeated dose toxicity	:	Note: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2. The product has not been tested. The information is derived from the properties of the individual components.
Genotoxicity in vitro		
Methanol	:	Note: In vitro tests did not show mutagenic effects
Diethanolamine	:	Note: In vitro tests did not show mutagenic effects
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
1H-Imidazole monohydriodide	:	Result: negative Method: Mutagenicity (Escherichia coli - reverse mutation assay)
	:	Test Method: reverse mutation assay Cell type: Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative
	:	Test Method: Ames test Result: negative
	:	Test Method: Chromosome aberration test in vitro Cell type: Chinese hamster cells Result: negative Method: OECD Test Guideline 473
Genotoxicity in vivo		

Methanol	:	Note: In vivo tests did not show mutagenic effects
Diethanolamine	:	Test Method: Chromosome aberration test Species: Mouse, male and female Application Route: Dermal Method: OECD Test Guideline 474 Result: negative
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: RatApplication 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.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish

Methanol	:	LC50: 29,400 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Propane-1,2-diol	:	static test LC50: 51,600 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout)

Method: OECD Test Guideline 203

Diethanolamine	:	static test LC50: 1,370 - 1,550 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)
1H-Imidazole monohydriodide	:	LC0: >= 100 mg/l Exposure time: 96 h Species: Danio rerio (zebra fish) Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

Methanol	:	LC50: 10,000 mg/l Exposure time: 24 h Species: Daphnia (water flea)
Propane-1,2-diol	:	static test LC50: 43,500 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: OECD Test Guideline 202
Diethanolamine	:	EC50: 55 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) EC50: 30.1 - 89.9 mg/l Exposure time: 48 h Species: Ceriodaphnia dubia (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.

1H-Imidazole monohydriodide : EC50: 1.4 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

EC0: 0.46 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

Toxicity to algae

Diethanolamine : static test
EC50: 9.5 mg/l
Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (algae)

Imidazole : static test
EC50: 133 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: DIN 38412

1H-Imidazole monohydriodide : Biomass
EC50: 8.3 mg/l
Exposure time: 72 h
Species: scenedesmus subspicatus
Method: OECD Test Guideline 201

Growth rate
EC50: 34 mg/l
Exposure time: 72 h
Species: scenedesmus subspicatus
Method: OECD Test Guideline 201

Biomass
NOEC: 1 mg/l
Exposure time: 72 h
Species: scenedesmus subspicatus

Method: OECD Test Guideline 201

Biomass
NOEC: 1 mg/l
Exposure time: 72 h
Species: scenedesmus subspicatus
Method: OECD Test Guideline 201

Toxicity to bacteria

Methanol : EC50: 43,000 mg/l
Exposure time: 5 min
Species: Photobacterium phosphoreum

EC50: 40,000 mg/l
Exposure time: 15 min
Species: Photobacterium phosphoreum

EC50: 39,000 mg/l
Exposure time: 25 min
Species: Photobacterium phosphoreum

1H-Imidazole monohydriodide : Respiration inhibition
EC50: > 1,000 mg/l
Exposure time: 3 h
Species: activated sludge
Method: OECD 209

Respiration inhibition
NOEC: 320 mg/l
Exposure time: 3 h
Species: activated sludge
Method: OECD 209

Biodegradability

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

Further information on ecology

Biochemical Oxygen Demand (BOD)
Diethanolamine : Value: 885 mg/g

Chemical Oxygen Demand (COD)
Diethanolamine : Value: 1,352 mg/g

Additional ecological information : Should not be released into the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT	UN/ID No.	: UN 1230
	Proper shipping name	: METHANOL SOLUTION
	Class	3
	Packing group	II
	Hazard Labels	3
IATA	UN/ID No.	: UN 1230
	Description of the goods	: METHANOL SOLUTION
	Class	: 3
	Packaging group	: II
	Hazard Labels	: 3 (6.1)
	Packing instruction (cargo aircraft)	: 364
	Packing instruction (passenger aircraft)	: 352
	Packing instruction (passenger aircraft)	: Y341
IMDG	UN/ID No.	: UN 1230

Description of the goods	:	METHANOL SOLUTION
Class	:	3
Packaging group	:	II
Hazard Labels	:	3 (6.1)
EmS Number	:	F-E, S-D
Marine pollutant	:	no

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.
Australia. Industrial Chemical (Notification and Assessment) Act	:	On the inventory, or in compliance with the inventory
China. Inventory of Existing Chemical Substances	:	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).
	:	
US. EPA CERCLA Hazardous Substances (40 CFR 302)	:	The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):
		Reportable quantity: 100 lbs
	:	Diethanolamine 111-42-2
	:	

		Reportable quantity: 5000 lbs	
	:	Methanol	67-56-1
	:		
		Reportable quantity: 500 lbs	
	:	Sulphur dioxide	7446-09-5
SARA 302 Components	:	The following components are subject to reporting levels established by SARA Title III, Section 302:	
	:	Sulphur dioxide	7446-09-5
SARA 313 Components	:	The following components are subject to reporting levels established by SARA Title III, Section 313:	
	:	Methanol	67-56-1
	:	Diethanolamine	111-42-2
SARA 311/312 Hazards	:	Fire Hazard Acute Health Hazard Chronic Health Hazard	
CERCLA Reportable Quantity	:	1000 lbs	
California Prop. 65	:	 **WARNING:** This product can expose you to chemicals, listed below, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.	
		Diethanolamine	111-42-2
		Methanol	67-56-1
		Sulphur dioxide	7446-09-5
Massachusetts RTK	:	Methanol	67-56-1
	:	Diethanolamine	111-42-2
	:	Sulphur dioxide	7446-09-5
New Jersey RTK	:	Methanol	67-56-1
	:	Propane-1,2-diol	57-55-6
	:	Diethanolamine	111-42-2
	:	Sulphur dioxide	7446-09-5

Pennsylvania RTK	:	Sulphur dioxide	7446-09-5
	:	Diethanolamine	111-42-2
	:	Methanol	67-56-1
	:	Propane-1,2-diol	57-55-6

SECTION 16. OTHER INFORMATION

		HMIS III	NFPA
Health hazard	:	3*	3
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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