

HYDRANAL™ Composite 1**34827-500ML**

Version 1.3

Revision Date 03/15/2022

Print Date 05/12/2023

SECTION 1. IDENTIFICATION

Product name : HYDRANAL™ Composite 1

Number : 000000020621

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 : brown

Odor : characteristic

Classification of the substance or mixture

Classification of the substance or mixture : Carcinogenicity, Category 2
Reproductive toxicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 1

GHS Label elements, including precautionary statements

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Symbol(s)

:



Signal word

: Danger

Hazard statements

: Suspected of causing cancer.
May damage fertility or the unborn child.
Causes 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.
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 personal protective equipment as required.

Response:
IF exposed or concerned: Get medical advice/ attention.

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.**Carcinogenicity**IARC: 2-Methylimidazole 693-98-1
Group 2B: Possibly carcinogenic to humans**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature

: Mixture

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Chemical name	CAS-No.	Concentration
2-(2-Ethoxyethoxy)ethanol	111-90-0	>=70.00 - <90.00 %
Sulphur dioxide	7446-09-5	>=5.00 - <10.00 %
Imidazole	288-32-4	>=5.00 - <10.00 %
2-Methylimidazole	693-98-1	>=5.00 - <10.00 %
Iodine	7553-56-2	>=1.00 - <5.00 %
1H-Imidazole monohydriodide	68007-08-9	>=1.00 - <5.00 %

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. If skin irritation persists, call a physician.
- 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.

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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 : Fire may cause evolution of:
Carbon monoxide
Carbon dioxide (CO₂)
Sulphur oxides
Nitrogen oxides (NO_x)
- Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing 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.
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

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regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe handling : Wear personal protective equipment.
Use only in well-ventilated areas.

Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.
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.
Do not store for longer periods (not > 1 month) at temperatures above 25°C. Higher temperature leads to an accelerated decrease in titer.

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.
Prevent vapour buildup by providing adequate ventilation during and after use.

Eye protection : Safety goggles

Hand protection : Wear nitrile rubber gloves to avoid contact with the skin.
Gloves must be inspected prior to use.
Replace when worn.

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- 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
2-(2-Ethoxyethoxy)ethanol	111-90-0	TWA : Time weighted average	140 mg/m ³ (25 ppm)	2007	WEEL:US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended
2-(2-Ethoxyethoxy)ethanol	111-90-0	TWA : Time weighted average	140 mg/m ³ (25 ppm)	2007	WEEL:US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended
Sulphur dioxide	7446-09-5	STEL : Short term exposure limit	(0.25 ppm)	2009	ACGIH:US. ACGIH Threshold Limit Values, as amended
Sulphur dioxide	7446-09-5	REL : Recommended exposure limit (REL):	5 mg/m ³ (2 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended

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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, as amended
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Sulphur dioxide	7446-09-5	PEL : Permissi ble exposure limit	13 mg/m3 (5 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
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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), as amended
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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), as amended
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Iodine	7553-56-2	TWA : Time weighted average	(0.01 ppm)	03 2014	ACGIH:US. ACGIH Threshold Limit Values, as amended
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Further information	:	Form of exposure : Inhalable fraction and vapor.			
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Iodine	7553-56-2	STEL : Short term exposure limit	(0.1 ppm)	03 2017	ACGIH:US. ACGIH Threshold Limit Values, as amended
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Further information	:	Form of exposure : Vapor fraction			
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Iodine	7553-56-2	Ceil_Tim e : Ceiling Limit Value and Time Period (if specified) :	1 mg/m3 (0.1 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
Iodine	7553-56-2	Ceiling : Ceiling Limit Value:	1 mg/m3 (0.1 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
Iodine	7553-56-2	Ceiling : Ceiling Limit Value:	1 mg/m3 (0.1 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: brown
Odor	: characteristic
Odor threshold	: Note: No data available
pH	: 3.0 - 4.0 at , 20 °C
Melting point/range	: Note: No data available
Boiling point/boiling range	: 194 °C at 1,013 hPa
Flash point	: 207 °F (97 °C)

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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	: ca. 1.110 g/cm ³ at 20 °C
Water solubility	: Note: completely miscible
Partition coefficient: n-octanol/water	: Note: No data available
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.

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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
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide Carbon dioxide (CO ₂) Sulphur oxides Nitrogen oxides (NO _x)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	: LD50: > 2,000 mg/kg Species: Rat Note: The toxicological data mentioned are derived from an analogous product.
Acute inhalation toxicity	: Note: No data available
Acute dermal toxicity	: LD50: > 2,000 mg/kg Species: Rat Note: The toxicological data has been taken from products of similar composition.
Skin irritation	: Species: Rabbit Result: No skin irritation Note: The toxicological data mentioned are derived from an analogous product.
Eye irritation	: Species: Rabbit Result: No eye irritation

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Note: The toxicological data mentioned are derived from an analogous product.

Sensitisation : Note: No data available

Repeated dose toxicity
1H-Imidazole
monohydriodide : Species: Rat
Application Route: Ingestion
Exposure time: (28 d)
NOEL: 50 mg/kg/d
Method: Repeated dose (28 days) toxicity (oral)

Genotoxicity in vitro : Test Method: Ames test
Result: negative
Note: The toxicological data mentioned are derived from an analogous product.

Genotoxicity in vivo
2-(2-Ethoxyethoxy)ethanol : Species: Rat, male
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative

: Test Method: Chromosome aberration test
Species: Mouse, male
Cell type: Bone marrow
Application Route: Intraperitoneal injection
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

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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.
2-Methylimidazole	: Species: RatApplication Route: Oral
	No observed adverse effect level: >50 mg/kg body weight No observed adverse effect level: 2 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 2-(2-Ethoxyethoxy)ethanol	: flow-through test LC50: 6,010 mg/l Exposure time: 96 h Species: Ictalurus punctatus (channel catfish) Method: OECD Test Guideline 203
Imidazole	: static test LC50: 283.6 mg/l Exposure time: 48 h Species: Leuciscus idus (Golden orfe)
2-Methylimidazole	: static test LC50: 190 mg/l Exposure time: 96 h Species: Leuciscus idus (Golden orfe) Method: DIN 38412
Iodine	: LC50: 1.67 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout)
1H-Imidazole monohydriodide	: LC0: >= 100 mg/l Exposure time: 96 h

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Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

2-(2-Ethoxyethoxy)ethanol : static test
LC50: 1,982 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 202

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.

2-Methylimidazole : static test
EC50: 225.31 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Method: Directive 67/548/EEC, Annex V, C.2.

Iodine : LC50: 0.55 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

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

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

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2-Methylimidazole : static test
EC50: 256.3 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: DIN 38412

static test
EC50: 189 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: DIN 38412

Iodine : Growth inhibition
EC50: 0.13 mg/l
Exposure time: 72 h
Species: Desmodesmus subspicatus (green algae)
Method: OECD Test Guideline 201

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
1H-Imidazole : Respiration inhibition

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monohydriodide 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

Elimination information (persistence and degradability)

Biodegradability : Result: Readily biodegradable
Value: 78 %
Method: OECD 302 B
Note: The toxicological data mentioned are derived from an
analogous product.

Further information on ecology

Additional ecological information
Iodine : Harmful to aquatic organisms, may cause long-term adverse
effects in the aquatic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT Not dangerous goods

TDG Not dangerous goods

IATA Not dangerous goods

IMDG Not dangerous goods

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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 Chemicals Act (AICC), as amended : 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
- 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** : 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:
: 2-(2-Ethoxyethoxy)ethanol 111-90-0
- SARA 311/312 Hazards** : Acute Health Hazard
Chronic Health Hazard

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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.

2-Methylimidazole	693-98-1
Sulphur dioxide	7446-09-5

Massachusetts RTK

: Sulphur dioxide	7446-09-5
: Iodine	7553-56-2

New Jersey RTK

: Iodine	7553-56-2
: Sulphur dioxide	7446-09-5
: 2-(2-Ethoxyethoxy)ethanol	111-90-0

Pennsylvania RTK

: 2-(2-Ethoxyethoxy)ethanol	111-90-0
: Sulphur dioxide	7446-09-5
: Iodine	7553-56-2

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 2*	2
Flammability	: 1	1
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.

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

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group