

LumetalliX Reagent GRNR

Version number: 1.0

Date of compilation: 2023-06-08

SECTION 1: Identification

1.1 Product identifier

Trade name

LumetalliX Reagent GRNR

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Professional use
Consumer uses

1.3 Details of the supplier of the safety data sheet

LumetalliX b.v.
Science Park 104
1098 XG Amsterdam
Netherlands

Telephone: +31 207 00 93 24

e-mail: sds@lumetallix.com

Website: www.lumetallix.com

e-mail (competent person)

sds@lumetallix.com

1.4 Emergency telephone number

Emergency information service

+31 207 00 93 24

This number is only available during the following office hours: Mon-Fri 09:00 - 17:00, CET: Central European Time

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
A.8D	specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336
B.6	flammable liquid	2	Flam. Liq. 2	H225

For full text of H-phrases: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- signal word

Danger

- pictograms

GHS02, GHS07



- hazard statements

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

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- precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

- hazardous ingredients for labelling

Contains: Isopropyl alcohol.

2.3 Other hazards

There is no additional information.

Hazards not otherwise classified

May be harmful if swallowed (GHS category 5: acutely toxic - oral).

May be harmful if inhaled (GHS category 5: acutely toxic - inhalation).

Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB $\geq 0.1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0.1\%$.



SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture).

3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Isopropyl alcohol	CAS No 67-63-0	≥ 90	Eye Irrit. 2 / H319 STOT SE 3 / H336 Flam. Liq. 2 / H225	 	

Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

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SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a POISON CENTER or doctor/physician if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Narcotic effects.

4.3 Indication of any immediate medical attention and special treatment needed

For specialist advice physicians should contact the poison centre.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry extinguishing powder; Carbon dioxide (CO₂); Sand;
Coordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.

Hazardous combustion products

During fire hazardous fumes/smoke could be produced.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases. Wear personal protective equipment/face protection.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece).

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

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Control of the effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

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

- ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

- packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)									
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Notation	Source
US	2-propanol	67-63-0	TLV®	200		400			ACGIH® 2023
US	isopropyl alcohol	67-63-0	PEL	400	980				29 CFR 1910.1000

Notation

STEL

short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Biological limit values

Biological limit values						
Country	Name of agent	Parameter	Notation	Identifier	Value	Source
US	isopropanol	acetone		BEI®	40 mg/l	ACGIH® 2023

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Isopropyl alcohol	67-63-0	DNEL	500 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Isopropyl alcohol	67-63-0	DNEL	888 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Isopropyl alcohol	67-63-0	DNEL	89 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects

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Relevant DNELs of components of the mixture

Name of sub-stance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Isopropyl alcohol	67-63-0	DNEL	319 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
Isopropyl alcohol	67-63-0	DNEL	26 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of sub-stance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	freshwater	intermittent release
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	marine water	intermittent release
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	water	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	2,251 mg/l	aquatic organisms	sewage treatment plant (STP)	intermittent release
Isopropyl alcohol	67-63-0	PNEC	552 mg/kg	aquatic organisms	freshwater sediment	intermittent release
Isopropyl alcohol	67-63-0	PNEC	552 mg/kg	aquatic organisms	marine sediment	intermittent release
Isopropyl alcohol	67-63-0	PNEC	28 mg/kg	terrestrial organisms	soil	intermittent release
Isopropyl alcohol	67-63-0	PNEC	160 mg/kg	(top) predators	water	intermittent release
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	water	intermittent release
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	140.9 mg/l	aquatic organisms	marine water	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	2,251 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	552 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	552 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Isopropyl alcohol	67-63-0	PNEC	28 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation. Provide eyewash stations and safety showers at the workplace.

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection

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Skin protection



Chemical protective clothing.

- hand protection



Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material

Nitrile rubber

- material thickness

Use gloves with a minimum material thickness: ≥ 0.38 mm.

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >480 minutes (permeation: level 6).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type : A (against organic gases and vapors with a boiling point of > 65 °C, color code: Brown). Observe the OSHA respirator regulations cited in 29 CFR 1910.134 and use NIOSH/MSHA approved respirators.

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Color	transparent
Particle	not relevant (liquid)
Odor	characteristic

Other safety parameters

pH (value)	not determined
Melting point/freezing point	296 °C (564.8 °F)
Initial boiling point and boiling range	82 °C at 1,013 hPa (179.6 °F at 1,013 hPa) calculated value, referring to a component of the mixture
Flash point	12 °C (53.6 °F) calculated value, referring to a component of the mixture
Evaporation rate	

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Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	LEL: 2 vol% / UEL: 13 vol% calculated value, referring to a component of the mixture
Vapor pressure	4.3 kPa at 20 °C (4.3 kPa at 68 °F) calculated value, referring to a component of the mixture
Density	not determined
Vapor density	this information is not available
Relative density	information on this property is not available
Solubility	not determined

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	399 °C (750.2 °F) (auto-ignition temperature (liquids and gases)) calculated value, referring to a component of the mixture
Decomposition temperature	no data available
Viscosity	not determined
- kinematic viscosity	not determined
Explosive properties	none
Oxidizing properties	none

9.2 Other information

There is no additional information.

Temperature class (USA, acc. to NEC 500)	T2 maximum permissible surface temperature on the equipment: 300 °C (572 °F)
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SECTION 10: Stability and reactivity

10.1 Reactivity

The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

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10.5 Incompatible materials

Oxidizers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**Acute toxicity**

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

Acute toxicity of components of the mixture					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Isopropyl alcohol	67-63-0	oral	LD50	>2,000 mg/kg	rat
Isopropyl alcohol	67-63-0	dermal	LD50	>10,000 mg/kg	rabbit
Isopropyl alcohol	67-63-0	inhalation: vapour	LC50	46 – 73 mg/l/4h	rat

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	CAS No	Classification	Number
Propan-2-ol	67-63-0	3	

Legend

3 Not classifiable as to carcinogenicity in humans

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

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Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Isopropyl alcohol	67-63-0	LC0	5,000 mg/l	aquatic invertebrates	24 h
Isopropyl alcohol	67-63-0	LC50	10,000 mg/l	fish	96 h

Aquatic toxicity (chronic) of components of the mixture					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Isopropyl alcohol	67-63-0	LC50	>10,000 mg/l	aquatic invertebrates	24 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be PBT or vPvB $\geq 0.1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

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SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information**14.1 UN number**

DOT	UN 1219
IMDG-Code	UN 1219
ICAO-TI	UN 1219

14.2 UN proper shipping name

DOT	Isopropanol
IMDG-Code	ISOPROPANOL
ICAO-TI	Isopropanol

14.3 Transport hazard class(es)

DOT	3
IMDG-Code	3
ICAO-TI	3

14.4 Packing group

DOT	II
IMDG-Code	II
ICAO-TI	II

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

No data available.

Information for each of the UN Model Regulations

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Transport of dangerous goods by road or rail (49 CFR US DOT) - additional information

Particulars in the shipper's declaration UN1219, Isopropanol, 3, II

Danger label(s) 3



Special provisions (SP) IB2, T4, TP1

ERG No 129

International Maritime Dangerous Goods Code (IMDG) - additional information

Marine pollutant -

Danger label(s) 3



Special provisions (SP) -

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

EmS F-E, S-D

Stowage category B

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Danger label(s) 3



Special provisions (SP) A180

Excepted quantities (EQ) E2

Limited quantities (LQ) 1 L

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

National regulations (United States)

Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name acc. to inventory	CAS No	Remarks	Effective date
isopropyl alcohol	67-63-0	only persons who manufacture by the strong acid process are subject, supplier notification not required	1987-01-01

Clean Air Act

none of the ingredients are listed

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Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name acc. to inventory	CAS No	Functionality	Authoritative Lists
Isopropanol	67-63-0		OEHHA RELs

- Toxic or Hazardous Substance List (MA-TURA)

Name acc. to inventory	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Isopropyl alcohol (mfg-strong acid process)	67-63-0				1.0 %

- Hazardous Substances List (MN-ERTK)

Name acc. to inventory	CAS No	References	Remarks
Isopropyl alcohol	67-63-0	A, N, O	

Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

- Hazardous Substance List (NJ-RTK)

Name acc. to inventory	CAS No	Remarks	Classifications
isopropyl alcohol (2-propanol) (isopropanol)	67-63-0		F3

Legend

- F3 Flammable - Third Degree

- Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
2-PROPANOL	67-63-0	E

Legend

- E Environmental hazard

- Hazardous Substance List (RI-RTK)

Name acc. to inventory	CAS No	References
isopropyl alcohol	67-63-0	T, F

Legend

- F Flammability (NFPA®)
- T Toxicity (ACGIH®)

California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

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Industry or sector specific available guidance(s)

NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	/	none
Health	2	temporary or minor injury may occur
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2023	From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EmS	Emergency Schedule

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Abbr.	Descriptions of used abbreviations
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

LumetalliX Reagent GRNR

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Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Disclaimer

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