

SAFETY DATA SHEET

SDS No.1021-58021

Date

May 12, 2016

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Mix standard, VOC 9 compounds, each 1000ppm in Ethanol
NAME OF MANUFACTURER : GL Sciences Inc.
ADDRESS : 22-1 Nishishinjuku 6-chome Shinjuku-ku Tokyo 163-1130, Japan
CHARGE SECTION : International Sales Section
TELEPHONE No. : +81-3-5323-6620
FACSIMILE No. : +81-3-5323-6621
PRODUCT No. : 1021-58021
SDS No. : 1021-58021
Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 2
Serious eye damage/eye irritation : Category 2B
Sensitization - respiratory - : Category 1
Sensitization - skin - : Category 1
Germ cell mutagenicity : Category 1B
Carcinogenicity : Category 1A
Reproductive toxicity : Category 1A
Specific target organ toxicity (Single exposure) : Category 3(respiratory irritation)
Specific target organ toxicity (Single exposure) : Category 3(anesthesia)
Specific target organ toxicity (Repeated exposure) : Category 1(Liver)
Specific target organ toxicity (Repeated exposure) : Category 2(Central nervous system)
Hazardous to the aquatic environment - Acute hazard : Category 3

HAZARD SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H225 Highly flammable liquid and vapour
H320 Cause eye irritation
H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H340 May cause genetic defect
H350 May cause cancer
H360 May damage fertility or the unborn child
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H372 Cause damage to organs through prolonged or repeated exposure<Liver>
H373 May cause damage to organs through prolonged or repeated exposure<Central nervous system>
H402 Harmful to aquatic life

PRECAUTIONARY STATEMENTS :

P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. –No smoking.
P233 Keep container tightly closed.
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.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe fume/gas/mist/vapours.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of water.
P370+P378	In case of fire: Use appropriate media such as chemical powder or carbon dioxide to extinguish.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
P305+ P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P403+ P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY	CONTENT	CHEMICAL FORMULA	CAS No.	TSCA INVENTORY	EINECS No.	EC INDEX No.
Ethanol	≥ 99.1%	C ₂ H ₅ OH	64-17-5	Listed	200-578-6	603-002-00-5
Formaldehyde	0.1%	HCHO	50-00-0	Listed	200-001-8	605-001-00-5
Acetaldehyde	0.1%	CH ₃ CHO	75-07-0	Listed	200-836-8	605-003-00-6
Toluene	0.1%	C ₆ H ₅ CH ₃	108-88-3	Listed	203-625-9	601-021-00-3
Ethylbenzene	0.1%	C ₂ H ₅ C ₆ H ₅	100-41-4	Listed	202-849-4	601-023-00-4
o-Xylene	0.1%	C ₆ H ₄ (CH ₃) ₂	95-47-6	Listed	202-422-2	601-022-00-9
m-Xylene	0.1%	C ₆ H ₄ (CH ₃) ₂	108-38-3	Listed	203-576-3	601-022-00-9
p-Xylene	0.1%	C ₆ H ₄ (CH ₃) ₂	106-42-3	Listed	203-396-5	601-022-00-9
Styrene	0.1%	C ₆ H ₅ CH=CH ₂	100-42-5	Listed	202-851-5	601-026-00-0
n-Tetradecane	0.1%	CH ₃ (CH ₂) ₁₂ CH ₃	629-59-4	Listed	211-096-0	Not listed

4. FIRST AID MEASURES

GENERAL ADVICE	: Consult a physician. Show this safety data sheet to the doctor in attendance.
INHALATION	: Move victim to fresh air. If breathing is difficult, give oxygen. If irritation persists, consult a physician.
SKIN CONTACT	: Remove contaminated clothes and shoes, rinse skin with plenty of water or shower. Use soap to help assure removal. Consult a physician immediately.
EYE CONTACT	: Flush eyes well with flooding large amounts of running water for at least 15 minutes. Assure adequate flushing by separating the eyelids with sterile fingers. If possible, remove any contact lenses. Consult a physician immediately.
INGESTION	: Rinse mouth, give plenty of water to dilute the substance. Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician immediately.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	: Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
FIRE & EXPLOSION HAZARDS	: Toxic, irritating, dust/fume/smoke may be emitted. Carbon monoxide may be foamed.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS	: Firemen should wear normal protective equipment(full bunker gear) and positive-pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS** : Remove ignition sources and ventilate the area. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid raising dust and avoid contact with skin and eyes.
- ENVIRONMENTAL PRECAUTIONS** : Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- METHODS FOR CLEAN UP** : Do not touch spilled material without suitable protection. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

- HANDLING** : Keep away from ignition sources and ventilate the area — No smoking. In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapour or mist. Avoid prolonged or repeated exposure. Handle this product with suitable protection.
- STORAGE** : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed. Keep cool(2 ~ 10°C).
- INCOMPATIBLE PRODUCTS** : Strong oxidizers, acids

8. EXPOSURE CONTROL/PERSONAL PROTECTION

- ENGINEERING MEASURES** : Use exhaust ventilation to keep airborne concentrations below exposure limits.
Use adequate ventilation.
- VENTILATION** : Local Exhaust ; Necessary, Mechanical(General) ; Necessary
- PERSONAL PROTECTION**
- Respiratory protection** : Use respirators approved under appropriate government standards and follow all regulations.
- HAND PROTECTION** : Chemical resistant gloves
- EYE PROTECTION** : Safety glasses(goggles)
- SKIN PROTECTION** : Protective clothing
- CONTROL PARAMETERS**

COMPONENTS	ACGIH	OSHA Final Limits	NIOSH REL
Ethanol	TWA= 1000 ppm	TWA= 1000 ppm	TWA= 1000 ppm
Formaldehyde	Ceiling 0.3 ppm	3 ppm	Not established
Acetaldehyde	25 ppm	Not established	
Toluene	50 ppm	TWA 200 ppm	TWA 100 ppm
Ethylbenzene	100 ppm	TWA 100 ppm	TWA 100 ppm
o-Xylene	100 ppm		
m-Xylene			
p-Xylene			
Styrene	20 ppm	TWA 100 ppm	TWA 50 ppm
n-Tetradecane	Not established		

9. PHYSICAL AND CHEMICAL PROPERTIES

- APPEARANCE** : Colorless, clear liquid
- ODOR** : Characteristic odor
- pH** : No data available
- BOILING POINT** : approx.78 °C (Ethanol)
- MELTING POINT** : -117 °C (Ethanol)
- FLASH POINT** : 12.8 °C (TCC) (Ethanol)
- EXPLOSIVE LIMITS** : 3.3% (lower), 19 % (upper) (Ethanol)
- VAPOR PRESSURE** : 5.33 kPa (at 20°C) (Ethanol)
- VAPOR DENSITY** : 1.6 (Ethanol)

SPECIFIC GRAVITY : 0.81 g/cm³ (at 20°C) (Ethanol)

SOLUBILITY IN

Water : Miscible

Organic solvent : Miscible

PARTITION COEFFICIENT ; n-octanol/water

: -0.32 (Ethanol)

AUTOIGNITION TEMPERATURE : 371 - 427 °C (Ethanol)

DECOMPOSITION TEMPERATURE

: No data available

10. STABILITY AND REACTIVITY

REACTIVITY : Stable under recommended storage conditions.

CHEMICAL STABILITY : Reacts with strong oxidizers.

CONDITION TO AVOID : Sunlight, heat, open flames, high temperature, sparks, static electrical charge, other ignition sources, moisture

INCOMPATIBLE MATERIALS : Oxidizers and strong acids

HAZARDOUS DECOMPOSITION PRODUCTS

: CO, CO₂ may be formed.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY : oral, dermal, inhalation: Not classified

SKIN CORROSION/IRRITATION : Not classified

EYE DAMAGE/EYE IRRITATION : 9 components are classified in Category 2.

(Ethanol) : Rat: moderate irritating(SIDS(2009),DFGOT Vol.12(1999)

RESPIRATORY SENSITIZATION : This product was classified depend on Formaldehyde.

SKIN SENSITIZATION : 2 component is classified in Category 1.

GERM CELL MUTAGENICITY : This product was classified in Category 1B depending on Ethanol.

CARCINOGENICITY : This product was classified in Category 1 depending on Formaldehyde.

(Formaldehyde) : IARC: Group 1(IARC,2005)

REPRODUCTIVE TOXICITY : 5 components are classified in Category 1A - 1B.

(Ethanol) : Human: fetal alcohol syndrome(PATTY(6th,2012))

(Toluene) : Human: fetal alcohol syndrome(IARC 71,1999)

SPECIFIC TARGET ORGAN TOXICITY - single exposure -

(Ethanol) : This product was classified in Category 3 depending on Ethanol.

: Human: eye and respiratory tract irritation, induce a toxicity and death(PATTY(6th, 2012)

SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -

(Ethanol) : This product was classified in Category 1 and 2 depending on Ethanol.

: Human: very harmful to all organ, especially liver.(DFGOT vol.12(1999),HSDB (Access on June 2013), SIDS(2005)m PATTY(6th,2012))

12. ECOLOGICAL INFORMATION

Hazardous to the aquatic environment - Acute hazard

: This product was classified in Category 3.

(Ethyl benzene) : Brown shrimp: LC50=0.4mg/L/96h(CERI·NITE,2006)

(o-Xylene) : Selenastrum: LC50=0.8mg/L/72h

BIODEGRADABILITY : Acrolein: TOC=0%

BIOACCUMULATIVE POTENTIAL : No data available

MOBILITY IN SOIL : No data available

OTHER ADVERSE EFFECTS : Not listed in Montreal Protocol list.

13. DISPOSAL INFORMATION

Dispose in a hazardous-waste site in accordance with all applicable regulations. Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environment agency for specific rules).

14. TRANSPORT INFORMATION

IATA

UN NUMBER : 1170
UN PROPER SHIPPING NAME : Ethanol solution
CLASS : 3, flammable liquid
PACKING GROUP : II
ADR/RID : 1170, ETHANOL SOLUTION
DOT : 1170, ETHANOL SOLUTION
MARINE POLLUTANT : Not classified

15. REGULATORY INFORMATION

US REGULATIONS : Labeling according to EC Directives; See section 2
EU REGULATIONS : Labeling according to EC Directives; See section 2

16. OTHER INFORMATION

NOTICE:

The information contained in the SDS description is applicable exclusively to the chemical substance identified herein and for its intended use as an analytical reference standard or reagent and to the unit quantity intended for that purpose. The information does not relate to, and may not be appropriate for, any application or larger quantity of the substance described. Our products are intended for the use by individuals possessing sufficient technical skill and qualification on use the material potential hazardous chemical. Accordingly, no representation or warranty, express or implied, with respect to merchantability and fitness for a particular purpose is made with respect to the information contained herein.

Attention:

This product in terms of chemical identity and the unit amount provide is intended for use in chemical analysis and not for human consumption, nor any other purpose.