

# SAFETY DATA SHEET

SDS No.1021-58012

Date

June 21, 2023

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## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Car Interior VOC Standard Mixed Sample 100µg/mL in Ethanol  
NAME OF SUPPLIER : 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. : 1021-58012, 1021-  
SDS No. : 1021-58012  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 2  
Serious eye damage/eye irritation : Category 2  
Carcinogenicity : Category 1A  
Reproductive toxicity : Category 1A  
Specific target organ toxicity  
(Single exposure) : Category 3(Airway irritation,  
Anesthetic effect)  
Specific target organ toxicity  
(Repeated exposure) : Category 1(Liver)  
: Category 2(Central nervous system)

HAZARD SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H225 Highly flammable liquid and vapour  
H319 Strong eye irritation  
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>

PRECAUTIONARY STATEMENTS :

[Prevention]

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.  
P260 Do not breathe fume/gas/mist/vapours.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
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.

[Response]

P303+P361+ P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water/shower.

P370+P378 In case of fire: Use appropriate media such as chemical powder or carbon dioxide to extinguish.

P305+ P351+ P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical attention.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P314 Get medical attention if you feel unwell.

[Storage]

P403+ P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.

P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with all applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL IDENTITY : Mixture

CHEMICAL NAME	CONTENT	CHEMICAL FORMULA	CAS RN	TSCA INVENTORY	EINECS No.
Ethanol	99.91 %	C <sub>2</sub> H <sub>5</sub> OH	64-17-5	Listed	200-578-6
Toluene	0.01 %	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	108-88-3	Listed	203-625-9
o-Xylene	0.01 %	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	95-47-6	Listed	202-422-2
m-Xylene	0.01 %	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	108-38-3	Listed	203-576-3
p-Xylene	0.01 %	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub>	106-42-3	Listed	203-396-5
Ethylbenzene	0.01 %	C <sub>2</sub> H <sub>5</sub> C <sub>6</sub> H <sub>5</sub>	100-41-4	Listed	202-849-4
Styrene	0.01 %	C <sub>6</sub> H <sub>5</sub> CH=CH <sub>2</sub>	100-42-5	Listed	202-851-5
n-Tetradecane	0.01 %	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>12</sub> CH <sub>3</sub>	629-59-4	Listed	211-096-0
Dibutyl phthalate	0.01 %	C <sub>6</sub> H <sub>4</sub> [COO(CH <sub>2</sub> ) <sub>3</sub> CH <sub>3</sub> ] <sub>2</sub>	84-74-2	Listed	201-557-4
Di-2-ethylhexyl phthalate	0.01 %	C <sub>6</sub> H <sub>4</sub> (COOC <sub>8</sub> H <sub>17</sub> ) <sub>2</sub>	117-81-7	Listed	204-211-0

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.

GENERAL ADVICE : Wash off immediately with soap and plenty of water. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit. Use personal protective equipment.

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 PRECATIONS : 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

CHEMICAL NAME	ACGIH	OSHA Final Limits	NIOSH REL
Ethanol	TWA= 1000 ppm	TWA= 1000 ppm	TWA= 1000 ppm
Toluene	20 ppm	TWA 200 ppm	TWA 100 ppm
o-Xylene	100 ppm	100 ppm	TWA 100 ppm
m-Xylene	100 ppm	100 ppm	TWA 100 ppm
p-Xylene	100 ppm	100 ppm	TWA 100 ppm
Ethylbenzene	100 ppm	TWA 100 ppm	TWA 100 ppm
Styrene	20 ppm	TWA 100 ppm	TWA 50 ppm
n-Tetradecane	Not established		
Dibutyl phthalate	5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>
Di-2-ethylhexyl phthalate	5 mg/m <sup>3</sup>	TWA 5 mg/m <sup>3</sup>	Ca TWA 5 mg/m <sup>3</sup>

9. PHYSICAL AND CHEMICAL PROPERTIES

- PHYSICAL STATE : Liquid
- COLOUR : Colorless, clear
- ODOR : Characteristic odor
- MELTING POINT / FREEZING POINT : -117 °C(Ethanol)
- BOILING POINT OR INITIAL BOILING POINT AND BOILING RANGE : approx.78 °C(Ethanol)

FLAMMABILITY : Flammable  
 LOWER AND UPPER EXPLOSION LIMIT / FLAMMABILITY LIMIT : 3.3% (lower), 19 % (upper)(Ethanol)  
 FLASH POINT : 12.8 ° C (TCC)(Ethanol)  
 AUTO-IGNITION TEMPERATURE : 371 - 427 ° C(Ethanol)  
 DECOMPOSITION TEMPERATURE : No data available(Ethanol)  
 pH : No data available  
 KINEMATIC VISCOSITY : Not applicable  
 SOLUBILITY  
 Water : Miscible  
 Organic solvent : Miscible  
 PARTITION COEFFICIENT  
 n-octanol/water (log value) : log Pow: -0.32(Ethanol)  
 VAPOR PRESSURE : 5.33 kPa (at 20° C)(Ethanol)  
 DENSITY AND/OR RELATIVE DENSITY : 0.81 g/cm3 (at 20° C)(Ethanol)  
 RELATIVE VAPOUR DENSITY : 1.6(Ethanol)  
 PARTICLE CHARACTERISTICS : Not applicable

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

This product is classified according to the classification of Ethanol.  
 We show the hazard information of Ethanol below.

ACUTE TOXICITY (Oral) : Rat LD50=6,200~17,800mg/kg.  
 ACUTE TOXICITY (Dermal) : Rabbit LDLo=20,000mg/kg.  
 ACUTE TOXICITY (Inhalation: Vapors) : Rat LD50=66,280ppmV.  
 ACUTE TOXICITY (Inhalation: Dusts and mists) : No data available.  
 SKIN CORROSION/IRRITATION : In a 4-hour exposure study on rabbits (OECD TG 404), the average score for erythema was 1.0 at 1 and 24 hours after application, and at other time points the average scores for erythema and edema were all 0.0, with a "no irritation" rating SIDS (2005).  
 EYE DAMAGE/EYE IRRITATION : rabbit; moderate irritating (SIDS,2005)  
 SKIN SENSITIZATION : In humans, there have been case reports of contact dermatitis, etc. due to allergic reactions to alcohol (DFGOT vol. 12 vol. 12 (1999)).  
 GERM CELL MUTAGENICITY : As in vitro mutagenicity tests, the Ames test, the mouse phosphor test using mammalian cultured cells, and the micronucleus test were all evaluated as negative (PATTY (6th, 2012), IARC (2010), DFGOT vol. 12 (1999), SIDS (2005), NTP DB ( Access on June 2013), and all other in vitro chromosome aberration studies were also negative except for one positive result in a study using CHO cells (SIDS (2005), PATTY (6th, 2012), IARC (2010)).  
 CARCINOGENICITY : ACGIH: Group A3(ACGIH(7th,2012)), it was clarified that Ethanol included in alcohol drinks and its main metabolite, Acetaldehyde, induce a cancer of such as esophagus.(IARC,2010)  
 REPRODUCTIVE TOXICITY : Human; fetal alcohol syndrome(PATTY(6th,2012)  
 SPECIFIC TARGET ORGAN TOXICITY - single exposure - : Effect or damage to human. (PATTY(6th,2009), SIDS(2005))

SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -

: Serious damage to all human organs, especially in liver. (DFGOT vol.12 1999), HSDB (Access on June 2013), SIDS(2005), PATTY(6th,2012))

ASPIRATION HAZARD

: This mixture is not classified.

12. ECOLOGICAL INFORMATION

HAZARDOUS TO THE AQUATIC ENVIRONMENT Short-term (acute)

: This mixture is not classified.

(Fish) : 4.02 mg/L (Ethylbenzene), 0.35 mg/L (Dibutyl phthalate)

(Crustacea) : 0.4 mg/L (Ethylbenzene), 3.78 mg/L (Toluene), 2.3 mg/L (m-Xylene), 1.7 mg/L (p-Xylene)

(Algae) : 0.8 mg/L (o-Xylene)

HAZARDOUS TO THE AQUATIC ENVIRONMENT Long-term (chronic)

: This mixture is not classified.

BIODEGRADABILITY : No data available.

BIOACCUMULATIVE POTENTIAL : No data available

MOBILITY IN SOIL : No data available

HAZARDOUS TO THE OZONE LAYER

: 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

International Regulations

Marine regulatory information : Comply the provisions of IMO.

UN Number : 1170

Proper Shipping Name : ETHANOL SOLUTION

Class : 3, flammable liquid

Packing Group : II

Marine Pollutant : Not applicable

Aviation regulatory information : Comply the provisions of ICAO/IATA.

UN Number : 1170

Proper Shipping Name : ETHANOL SOLUTION

Class : 3, flammable liquid

Packing Group : II

Regulations in Japan

Land regulatory information : Not applicable

Marine regulatory information : Comply the provisions of the Ship Safety Act..

UN Number : 1170

Proper Shipping Name : Ethanol solution

Class : 3, flammable liquid

Packing Group : II

Marine Pollutant : Not applicable

Aviation regulatory information : Comply the provisions of the Civil Aeronautics Act.

UN Number : 1170

Proper Shipping Name : Ethanol solution

Class : 3, flammable liquid

Packing Group : II

Emergency Response Guide Number : 127

15. REGULATORY INFORMATION

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

EU REGURATIONS : 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.