

# SAFETY DATA SHEET

SDS No.1021-58001

Revised date June 15, 2022

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## 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Standard sample, C16,20 10µg/mL in Hexane  
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. : 1021-58001、 1021-  
SDS No. : 1021-58001  
Research use only.

## 2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION : Flammable liquid : Category 2  
Skin corrosion/irritation : Category 2  
Serious eye damage/eye irritation : Category 2  
Reproductive toxicity : Category 2  
Specific target organ toxicity (Single exposure)  
: Category 3(respiratory irritation)  
Specific target organ toxicity (Repeated exposure)  
: Category 1(Central nervous system)  
Hazardous to the aquatic environment, short-term (acute)  
: Category 2

HAZARD SYMBOL :



SIGNAL WORD : Danger

HAZARD STATEMENTS :

H225 Highly flammable liquid and vapour  
H315 Cause skin irritation  
H319 Cause serious eye irritation  
H361 Suspected of damaging fertility or the unborn child  
H335 May cause respiratory irritation  
H372 Cause damage to organs through prolonged or repeated exposure<Central nervous system>  
H401 Toxic to aquatic life

PRECAUTIONARY STATEMENTS :

[Prevention]

P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P260 Do not breathing dust/fume/gas/mist/vapours/spray.  
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.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P302+P352 IF ON SKIN: Wash with plenty of water.  
 P303+P361+P353 IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water.  
 P304+P340 IF INHALED: Remove person to fresh air and keep 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.  
 P308+P313 IF exposed or concerned: Get medical attention.  
 P314 Get medical attention if you feel unwell.  
 P332+P313 If skin irritation occurs: Get medical attention.  
 P337+P313 If eye irritation persists: Get medical attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P370+P378 In case of fire: Use appropriate medias to extinguish.

[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 IDENTITY	CONTENT	CHEMICAL FORMULA	CAS No.	TSCA INVENTORY	EINECS No.
n-Hexane	> 99 %	C <sub>6</sub> H <sub>14</sub>	110-54-3	Listed	203-777-6
n-Hexadecane	0.001 %	C <sub>16</sub> H <sub>34</sub>	544-76-3	Listed	208-878-9
n-Eicosane	0.001 %	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>18</sub> CH <sub>3</sub>	112-95-8	Listed	204-018-1

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 : Carbon dioxide, dry chemical powder, foam, water spray  
 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.

**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**

	ACGIH	OSHA Final Limits	NIOSH REL
n-Hexane	50 ppm	500 ppm	50 ppm
n-Hexadecane	Not established		
n-Eicosane			

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL STATE** : Liquid

**COLOUR** : Colorless, clear

**ODOR** : Characteristic odor

**MELTING POINT / FREEZING POINT** : - 95 °C

**BOILING POINT OR INITIAL BOILING POINT AND BOILING RANGE** : approx. 69 °C

**FLAMMABILITY** : Flammable

**LOWER AND UPPER EXPLOSION LIMIT / FLAMMABILITY LIMIT** : 1.1 % (lower), 7.5 % (upper)

**FLASH POINT** : - 22 °C (TCC)

**AUTO-IGNITION TEMPERATURE** : 240 °C

**DECOMPOSITION TEMPERATURE** : No data available

**pH** : No data available

**KINEMATIC VISCOSITY** : Not applicable

**SOLUBILITY**

Water : Practically insoluble

Organic solvent : Miscible

**PARTITION COEFFICIENT**

n-octanol/water (log value) : 3.9

**VAPOUR PRESSURE** : 16 kPa (at 20°C)

**DENSITY AND/OR RELATIVE DENSITY** : 0.66 g/cm<sup>3</sup> (15/4 °C)

**RELATIVE VAPOUR DENSITY** : 3.0

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, CO<sub>2</sub>.

11. TOXICOLOGICAL INFORMATION

This product is classified according to the classification of n-Hexane.  
 We show the hazard information of Hexane below.

ACUTE TOXICITY (Oral) : Rat LD50=15,800~32,400mg/kg.  
 ACUTE TOXICITY (Dermal) : Cannot classify due to lack of data.  
 ACUTE TOXICITY (Inhalation: Vapors) : Rat LC50=48,000ppm/4h  
 ACUTE TOXICITY (Inhalation: Dusts and mists) : No data available.  
 SKIN CORROSION/IRRITATION : Rabbit: slight irritation, Human: erythema, blisters vesicle, uredo (DFGOT vol.14,2000)  
 EYE DAMAGE/EYE IRRITATION : Rabbit: slight irritation. (DFGOT vol.14,2000)  
 RESPIRATORY OR SKIN SENSITIZATION : No data available.  
 SKIN SENSITIZATION : No data available.  
 GERM CELL MUTAGENICITY : Negative results in a predominant lethal test with inhalation exposure in mice (germline in vivo transgenerational mutagenicity test), a micronucleus test using red blood cells with inhalation exposure in mice, and a chromosome aberration test using bone marrow cells with inhalation exposure in mice and rats (somatic cell in vivo mutagenicity test) have all been negative ( DFGOT vol. 14 (1992 and 2000), ATSDR (1999)).  
 CARCINOGENICITY : In a carcinogenicity study (GLP-compliant) in rats and mice by inhalation exposure for 2 years, no increase in tumor frequency was observed in any part of the male and female rats, but a significant increase in the frequency of hepatocellular tumors (mainly tumor glands) was observed in the female mice (DFGOT vol. 14, 2002). However, there are no existing classifications by other institutions, and due to lack of data, the classification cannot be made.  
 REPRODUCTIVE TOXICITY : In a two-generation reproduction study in rats by inhalation exposure, the sexual function and fertility of the parent animals (F0 and F1) were not impaired in both generations (DFGOT vol. 14, 2000), but inhalation exposure of rats to 500-1500 ppm during gestation increased the absorbed embryo rate (EHC 122, (EHC122, 1991) and a significant dose-dependent decrease in the number of viable pups in the same stomach (ATSDR, 1999) were observed in rats exposed by inhalation at 5000 ppm on gestation days 6 to 17, respectively, along with suppression of body weight gain in the mother animals. In addition, EU phrase is classified as R62 and MAC is classified as C. On the other hand, there is a report that inhalation exposure of rats to 1000 ppm for 8 to 16 days gestation did not lead to an increase in the absorbed embryo rate (EHC 122, 1991).  
 SPECIFIC TARGET ORGAN TOXICITY-Single exposure : Human: inhalation, drowsiness, upper respiratory tract irritation (ACGIH (7th,2001), PATTY(5th,2001))  
 Rat or Mouse: ataxia, lack of coordination, calm, anesthesia (EHC 122(1999), PATTY(5th,2001))  
 SPECIFIC TARGET ORGAN TOXICITY-Repeated exposure : Human: There are many case reports and results of epidemiologic study. (EHC122(1991), ACGIH(7th,2001), DFGOT vol.14(2000), PATTY(4th,1994), ATSDR(1999))  
 ASPIRATION TOXICITY : Hexane is a hydrocarbon.  $\leq 20.5\text{mm}^2/\text{s}$

**12. ECOLOGICAL INFORMATION**

- HAZARDOUS TO THE AQUATIC ENVIRONMENT Short-term (acute)  
: (Hexane) Daphnia magna: LC50=3.88mg/L/48h(EHC122,1991)
- HAZARDOUS TO THE AQUATIC ENVIRONMENT Long-term (chronic)  
: It is estimated to be rapidly degradable (degradation by BOD: 100% (existing inspection, 1996)) and low bioaccumulative (log Kow=3.9 (PHYSPROP Database, 2009)).
- BIODEGRADABILITY : (Hexane) BOD=100%, log Kow=3.9(PHYSPROP Database,2009)
- 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 : 1208
- Proper Shipping Name : HEXANES
- Class : 3, flammable liquid
- Packing Group : II
- Marine Pollutant : Not applicable
- Aviation regulatory information : Comply the provisions of ICAO/IATA.
- UN Number : 1208
- Proper Shipping Name : HEXANES
- 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 : 1208
- Proper Shipping Name : HEXANES
- Class : 3, flammable liquid
- Packing Group : II
- Marine Pollutant : Not applicable
- Aviation regulatory information : Comply the provisions of the Civil Aeronautics Act.
- UN Number : 1208
- Proper Shipping Name : HEXANES
- Class : 3, flammable liquid
- Packing Group : II
- Emergency Response Guide Number : 128

**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.