SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	:	Clean-up kit MgSO4/PSA/C18/GC-e
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.	:	5010-10021、5010-10024、5010-10028、5010-10029、5010-
SDS No.	:	5010-0221

Research use only.

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION :

Eye damage/irritation	:	Category 2
Carcinogenicity	:	Category 2
Specific target organ toxicity (Single exposure)	:	Category 3 (respiratory irritation)
Specific target organ toxicity (Repeated exposure)	:	Category 1 (respiratory system)

HAZARDS SYMBOL :

SIGNAL WORD : Danger

HAZARD STATEMENTS :

H320	Causes eye irritation
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure Respiratory organs
H410	Very toxic to aquatic organisms due to long-term persistent effects

PRECAUTIONARY STATEMENTS :

[Prevention]

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hand thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P304+P340	If inhaled: Move to fresh air and rest in a position comfortable for breat hing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove co ntact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P308+P313	Call a POISON CENTER/doctor/if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.

[Storage]

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

[Disposal]

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/MIXTUER : Mixture
CHEMICAL NAME : Clean-up kit MgSO4/PSA/C18/GC-e
SYNONYMS : - - -

CHEMICAL NAME	CONTENT	CHEMICAL FORMULA	CAS RN	TSCA INVENTRY	EINECS No.
Magnesium sulfate	50～58.6%	$MgSO_4$	7487-88-9	--	--
Functional group-bonded silica gel (PSA)	16.6～19.5%	(SiO_2)-$(CH_2)_3NH(CH_2)_2NH_2$	112926-00-8	--	--
Functional group-bonded silica gel (C18)	16.6～19.5%	(SiO_2)-$(CH_2)_{17}CH_3$	112926-00-8	--	--
Graphite carbon black (GC-e)	2.2～16.6%	C	1333-86-4	--	--

4. FIRST AID MEASURES

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

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. If irritation persists, consult a physician.

EYE CONTACT : Remove any contact lenses at once. 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 irritation persists, consult a physician. Never rub your eyes.

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.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA : Powder, foam (alcohol foam), carbon dioxide, water spray.

FIRE & EXPLOSION HAZARDS : Toxic and irritating dust, fumes or smoke may be emitted.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS

: Fireman 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 spills from entering sewers, watercourses or low areas.
Comply with local disposal regulations.

METHODS FOR CLEANING UP : Do not touch spilled material without suitable protection. After material is completely picked up, wash the spill site with soap and water and ventilate the area. Pull all wastes in a plastic bag for disposal and seal it tightly. Remove, clean, or dispose contaminated clothing.

7. HANDLING AND STORAGE

HANDLING : In case of insufficient ventilation, wear suitable respiratory equipment.
Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Handle this product with suitable protection.
After using this product, dispose of contents/container in accordance with all applicable regulations and appropriate ways.

STORAGE : Store away from sunlight, heat and all ignition sources in well-ventilated dry place. Keep container tightly closed.

INCOMPATIBLE PRODUCTS : Strong oxidizers, acids, reductants.

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) ; Recommended

CONTROL PARAMETERS

CHEMICAL NAME	ACGIH	OSHA PEL	NIOSH REL
Magnesium sulfate	--	--	--
Functional group-bonded silica gel (PSA)	10 mg/m^3 3 mg/m^3	--	--
Functional group-bonded silica gel (C18)	10 mg/m^3 3 mg/m^3	--	--
Graphite carbon black (GC-e)	3.0 mg/m^3	0.5 mg/m^3 (Inhalable dust) 2.0 mg/m^3 (total dust)	Not established

PERSONAL PROTECTION

RESPIRATORY PROTECTION : Gas masks. Select one with performance and construction suitable for the work, conforming to the Japanese Industrial Standard (JIS T8152).

HAND PROTECTION : Safety gloves

EYE PROTECTION : Safety glasses(goggles)

SKIN PROTECTION : Protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE : White - slightly grayish white

PHYSICAL STATE : Solid(Powder)

ODOR : No data available

pH : Strong acid, strong basicity (in water)

BOILING POINT : No data available

MELTING POINT : No data available

FLASH POINT : No data available

FLAMMABILITY : No data available

LOWER AND UPPER EXPLOSION LIMIT / FLAMMABILITY LIMIT

: Not applicable

AUTOIGNITION TEMPERATURE : No data available

KINEMATIC VISCOSITY : No data available

VAPOR PRESSURE : No data available

DENSITY AND/OR RELATIVE DENSITY

: No data available

SPECIFIC GRAVITY (DENSITY) : No data available

SOLUBILITY IN

Water : Insoluble

Organic solvent : Insoluble

PARTITION COEFFICIENT

n-octanol/water : No data available

RELATIVE VAPOUR DENSITY : No data available

DECOMPOSITION TEMPERATURE

: No data available

PARTICLE CHARACTERISTICS : Powder form

10. STABILITY AND REACTIVITY

REACTIVITY : Stable under recommended using and storage conditions.

CHEMICAL STABILITY : React with water.

CONDITION TO AVOID : Sunlight, heat, moisture, contact with incompatible materials.

INCOMPATIBILE MATERIALS : Acidic materials, oxidants, reductants

HAZARDOUS DECOMPOSITION PRODUCTS

: Sulfur compounds

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY -oral- : No data available

ACUTE TOXICITY -inhalation- : No data available

SKIN CORROSION/IRRITATION : No data available

EYE DAMAGE/EYE IRRITATION : No data available

(Silica gel) : Mild conjunctival redness in eye irritation tests(OECD TG 404, Precipitated silica(Sident9)) using rabbits (SIDS (2006)、ECETOC JACC (2006)).

Slight or no irritation in eye irritation tests(Precipitated silica) using rabbits (SIDS (2006)).

SKIN SENSITIZATION : No data available

GERM CELL MUTAGENICITY : No data available

CARCINOGENICITY : Contains 1% or more of graphite carbon black, etc., and therefore falls under Category 2.

(Silica gel) ; There is no information on carcinogenicity in humans due to exposure to synthetic amorphous silica. However, the IARC classified amorphous silica as a whole (including diatomaceous earth and biogenic silica fibers in addition to this substance) as Group 3 for carcinogenicity, stating that the evidence for carcinogenicity in humans is insufficient and the evidence for synthetic amorphous silica in experimental animals is also insufficient (as described below) (IARC 68 (1997)). .

(Graphite carbon black)

; In humans, cohort studies and case-control studies within cohorts primarily in the UK, Germany, and the US have suggested an association between occupational exposure to this substance and an increased risk of lung cancer mortality. However, the possibility of smoking's influence cannot be ruled out, or when adjusting for co-exposure to asbestos and talc, the significant difference in the increased risk of lung cancer mortality disappeared, and no results supporting the correlation between the two were obtained (IARC 93 (2010), ACGIH (7th, 2011)).

REPRODUCTIVE TOXICITY : No data available

SPECIFIC TARGET ORGAN TOXICITY - single exposure -

: The total amount of components classified as Category 3 (respiratory tract irritation) exceeds the concentration limit (20%), so it falls under Category 3 (respiratory tract irritation).

(Silica gel) : Silica gel (Syloid 244) was classified as Category 3 (respiratory tract irritant) based on reports indicating respiratory tract irritancy (SIDS (2006), ECETOC JACC (2006)).

SPECIFIC TARGET ORGAN TOXICITY - repeated exposure -

: Contains more than 10% graphite carbon black, therefore classified as Category 1 (respiratory).

(Graphite carbon black)

: 1, 2, 3.5 mg/m3 (8-hour TWA value), it was estimated that after 40 years of inhalation exposure, FEV1 (forced expiratory volume in 1 second) values would decrease by an average of 49, 91, and 169 mL, respectively. However, compared to the average 1,200 mL decrease in FEV1 due to aging in adult males over 40 years, this was considered to be a very slight change (SIDS (2007)). Additionally, a study at a manufacturing plant in North America also showed a similar decline in lung function, with FEV1 decreasing by 28 mL after 40 years of exposure at 1 mg/m³ (SIDS (2007)). However, both European and North American results indicate that the decline in FEV1 values, used as an indicator, falls within the 95% confidence interval range of normal FEV1 values (ACGIH (7th, 2011)).

ASPIRATION TOXICITY : No data available

12. ECOLOGICAL INFORMATION

Hazardous to the aquatic environment - Acute hazard –
: No data available

Hazardous to the aquatic environment - Chronic hazard –
: No data available

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

International Regulations

Maritime regulations	:	Conform to the provisions of IMO.
UN No.	:	Not regulated
Proper Shipping Name	:	-
Class	:	-
Packing Group	:	-
Marine Pollutant	:	Not applicable
Aviation regulations	:	Conform to the provisions of ICAO/IATA.
UN No.	:	Not regulated
Proper Shipping Name	:	-
Class	:	-
Packing Group	:	-

15. REGULATORY INFORMATION

This SDS has been prepared in accordance with Japanese laws and regulations and has not been prepared based on research into the local laws and regulations of each country.

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.