SAFETY DATA SHEET（SDS）

1．CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name	:	KG-1
Recommended use and Limitation on use	:	Solvent for washing
Name of manufacturer	:	Kyoei Chemical Co.,Ltd.
Address	:	2-3-9,Azumabashi,Sumida-ku,Tokyo,Japan
Emergency Telephone No.	:	JAPAN +81-3-3626-5161
FAX No.	:	JAPAN +81-3-3624-4309
Data Prepared	:	2012-10-1
Data Revised	:	2021-1-20

2．HAZARDS IDENTIFICATION

GHS Classification

Physical hazards :	Explosives Not applicable	Not applicable
	Flammable gases	Not applicable
	(including chemically unstable gases)	Not applicable
	Aerosols	Not applicable
	Oxidizing gases	Not applicable
	Flammable liquids	Category 2
	Flammable solids	Not applicable
	Self-reactive substances and mixtures	Not applicable
	Pyrophoric liquids	Not classified
	Pyrophoric solids	Not applicable
	Self-heating substances and mixtures	Classification not possible
	Substances and mixtures which, in contact with water, emit flammable gases	Not applicable
	Oxidizing Liquids	Not applicable
	Oxidizing solids	Not applicable
	Organic peroxides	Not applicable
	Corrosive to metals	Classification not possible
Environmental hazards：	Aquatic hazard (acute)	Category 2
	Aquatic hazard (long-term)	Classification not possible
	Hazardous to the ozone layer	Classification not possible
Health hazards：	Acute toxicity (oral)	Classification not possible
	(dermal)	Classification not possible
	(inhalation: gas)	Not applicable
	(inhalation: vapour)	Classification not possible
	(inhalation: dust)	Not applicable
	(inhalation: mist)	Classification not possible
	Skin corrosion/irritation	Category 2

Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Category 2
Specific target organ toxicity - single exposure (Respiratory tract irritation, narcotic effect)	Category 3
Specific target organ toxicity - repeated exposure (Nervous system)	Category 1
Aspiration hazard	Category 1

＊The above classification is based on data of Isohexane which is a chief ingredient of KG-1

GHS labeling elements

Pictograms or symbols

Signal Word ：**Danger**

Hazard Statements：

- H225 Highly Flammable liquid and vapor.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H361 Suspected of damaging fertility or the unborn child.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H372 Damage to organs (nervous system)through prolonged on repeated.
- H304 May be fatal if swallowed and enters airway.
- H401 Toxic to aquatic life.

Precautionary Statements ：

Prior to use, please read a safe data sheet by all means

1) Prevention

- P210 Keep away from heat, sparks, open flames and hot surfaces. ――No smoking.
- P233 Keep container tightly closed.
- P240 Ground 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 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.

・P280 Wear protective gloves, protective clothing eye protection and face protection.

2) Response

・P303+361+353 If on skin or hair: Remove off immediately all contaminated clothing. Rinse skin with water.

・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.

・P307+P311 If exposed: Call a POISON CENTER or doctor/physician

・P312 Call a POISON CENTER or doctor/physician if you feel unwell

・P362 Take off contaminated clothing and wash before reuse

・P370+P378 In case of fire: Use carbon dioxide, regular dry chemical and dry sand for extinction.

3．COMPOSITION/INFORMATION ON INGREDIENTS

Chemical/mixture： mixture

KG-1	Component name	Chemical Formula (molecular weight)	V/V %	CAS No.	UN No.	Remarks
1	Isohexane (other name: 2-Methylpentane)	C_6H_{14} (abt.86)	75－85	107-83-5	1208	Solvent
2	Ethanol (other name: Ethyl alcohol)	C_2H_6O (46.07)	10－20	64-17-5	1170	Solvent
3	Ethyl ether (other name: Diethyl ether、1,1'-Oxybisethane)	$C_4H_{10}O$ (74.12)	2－4	60-29-7	1155	Solvent
		Total	100			
Density：0.6823g/cm^3（15℃） Color：Colorless Flash point：-33℃ pH：no knowledge						

KG-1	Component name	Acute toxicity	Skin corrosion/ irritation	Serious eye damage/Eye irritation	Respiratory or skin sensitization
1	Isohexane	Classification not possible	Category2	Category2	Classification not possible
2	Ethanol	Not classified	Not classified	Category 2A-2B	Classification not possible
3	Ethyl ether	category4	Category3	Category2B	Classification not possible

KG-1	Component name	Germ cell mutagenicity	Carcinogenicity	Reproductive toxicity	Specific target organ toxicity single exposure	Specific target organ toxicity repeated exposure	Hazardous to the aquatic environment
1	Isohexane	Classification not possible	Classification not possible	Classification not possible	Category 3	Category 1	Category 2
2	Ethanol	Category 1B	Not classified	Category 1A	Category 3	Category 1	Not classified
3	Ethyl ether	Classification not possible	Classification not possible	Category 2	Category 3	Not classified	Not classified

4 . FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing and wash skin with plenty of soap and water.

EYE CONTACT : For eyes, flush with plenty of water for at least 15 minutes. Call a physician if pain or visual disturbances persist.

INGESTION : If conscious, give 2 glasses of water and do not induce vomiting.
Keep at rest. Call a physician.
If unconscious, do not induce vomiting.
Administer artificial respiration if not breathing.

INHALATION : In case of exposure to high content of vapor/mists, remove to fresh air.
Restore breathing.
Call a physician.

5 . FIRE FIGHTING HEASURES

FIRE AND EXPLOSION HAZARDS: Vapor/air mixtures may ignite.

EXTINGUISHING MEDIA: Carbon dioxide, chemical form and water mist

FFIRE FIGHTING:

Shut off air. Use extinguishing media which produce a blanketing effect.
Wear full protective clothing and self-contained breathing apparatus.
Move containers from fire area if it can be done without risk.
Avoid inhalation of material or toxic fumes emitted.
Stay upwind and keep out of low areas.

6 . ACCIDENTAL RELEASE MEASURES

Sweep up and place into a suitable container for disposal.
Avoid raising. Eliminate all sources of ignition and ventilate the area.
Keep out of water supplies and sewers.
Keep unnecessary people away, isolate hazard area and deny entry.

7．HANDLING AND STORAGE

HANDLING：Avoid contact with skin, eyes or clothing.
Keep away from heat, flames and sparks. Avoid light, especially UV.
Wear adequate personal protective equipment.

STORAGE ：Store at moderate cool, dry, well-ventilated dark room.

8．EXPOSURE CONTROLS/PERSONAL PROTECTION

ACGIH(TLV/TWA) 500ppm（By Isohexane）

VENTILATION SYSTEM:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

PERSONAL RESPIRATORS (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier; whichever is lowest. A full-face piece organic vapor respirator may be worm up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier; whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

SKIN PROTECTION:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

EYE PROTECION:

Use chemical safety goggles and/or a full face shield where splashing is possible.
Maintain eye wash fountain and quick-drench facilities in work area.

9．PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid

COLOR: colorless

CHEMICAL FORMULA: Isohexane：about 86 Etanol：46.07 Ethyl ether：74.12

BOILING POINT: 53.5℃

DENSITY: 0.6823 g/ml(15℃)

FLASH POINT: －33℃(cc)

10. STABILITY AND REACTIVITY

STABILITY: Stable at normal ambient condition.

CONDITIONS TO AVOID: Avoid heat, sparks, static electricity and other sources of ignition.

INCOMPATIBILITIES: Oxidizing materials, acids

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION *1

There are the following toxic reports about n-hexane similar to the isohexane which is the main ingredients.

However, those with a report that there is little toxicity compared with n-hexane.

Acute Toxicity;	LD50(Oral)	rat	28,710mg/kg
	LCL0(inhalation)	mouse	34,000~43,000ppm/2H
Carcinogenicity;	NTP	NO	
	IARC Monographs	NO	
	OSHA Regulated	NO	(No information is available.)

12. ECOLOGICAL INFORMATION

There are the following toxic reports about n-hexane similar to the isohexane which is the main ingredients.

However, those with a report that there is little toxicity compared with n-hexane.

Acute aquatic toxicity: fish : LCo 4,280/(70~150)mg/l

13. DISPOSAL INFORMATION

Do not dump into sewers, on the ground or into any body of water.

Burn in adequate incinerators in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

International regulations:

Marine regulations	Follow the IMO regulations.
U.N. number	1208
U.N. classification	Class 3
Packing group	II
Marine Pollutant	Yes
	According to laws and ordinances, please display the Marine Pollutant mark to transportation packaging.

Air regulations	Follow the ICAO/IATA regulations.

Regulations in Japan:

Land regulations	Follow the regulations of Fire Defense Law.
Fire Defense Law	Category 4 First-class petroleum
Container	Specified in the Attached Table 3-2 in the Hazardous Substance Control Regulations.
Container labeling	Category 4, First class petroleum, Hazard classification II, quantity, No fire

Loading limitation	Height of stacked containers should be not more than 3 meters for transportation. Containers should be covered with light-blocking coat to be protected from direct sunlight during transport.
Substances prohibited to be loaded with this product	Hazardous substances in Category 1 and Category 6 high pressure gases.
Marine regulations	Follow the Ship Safety Law.
Air regulations	Follow the Aviation Law.

Special safety measures

- Avoid applying vigorous friction or shaking to the hazardous substance or containers during transportation.
- Enforce the preventive measures against the fall of the hazardous substance or the fall, inversion or damage of the containers of the hazardous substance.

15. REGULATORY INFORMATION

U.S. REGULATIONS (TSCA): Yes
EUROPEAN REGULATIONS (EINECS/ELINCS): 2037776
JAPANISE REGULATIONS (ENCS): (2)-6

16. OTHER INFORMATION

History of revision

1st edition created on October 1, 2012

Revised on	March1, 2014	: Change of Hazard Statements
	January12, 2017	: Change of Hazard Identification etc.
	August31, 2018	: Change of Hazard Identification etc.
	February5, 2019	: Change of Composition/Information on ingredients
	July28, 2020	: Change of Composition/Information on ingredients
	January20, 2021	: Change of Composition/Information on ingredients

Information given herein is to best of our knowledge and is only related to the product as delivered in ordered to given a complete review of safety aspects accurate as of the date indicated. All data given are never meant to guarantee product properties.