Safety Data Sheet (SDS)

1. Identification

- Product identifier used on the label
  Product name: KBM NK Kit
  Kit configuration: NKCC-1, NKCC-2, NKCC-b,NKCC-c
  NKCC-b is not a subject of this SDS because it is a substrate for culturing.
- Application of product: Expansion culture and activation culture medium for lymphocytes.
- Provider Information

Kohjin Bio Co., Ltd.
5-1-3 Chiyoda Sakado City Saitama Prefecture
TEL: +81-49-284-3781 (9 am-6 am Japan time M-F)
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E-mail address: info@kohjin-bio.co.jp
Officer: Yasuyuki Ozeki
Contact: Shown in the above-mentioned.

Recommended use of the chemical: For research use only.

2. Hazards Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

* Not a hazardous substance or mixture in accordance with OSHA HCS (29 CFR 1910. 1200).
* This product does not meet the definition of a hazardous substance or preparation as defined by 29 CFR 1910.1200 or the Globally Harmonized System rev.6.
* Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).
* This product is not classified under the Globally Harmonized System (GHS).

- GHS label elements indication: None.

3. Composition/Information on Ingredients

NKCC-1

- Substance / mixture distinction: Mixture

Ingredient name	CAS#	% by weight
Sodium Selenite	10102-18-8	0.00000114
Potassium nitrate	7757-79-1	0.0000076
Cyanocobalamin	68-19-9	0.0000013
Monoethanolamine	141-43-5	0.0000037
Linoleic Acid	60-33-3	0.00002
Oleic Acid	112-80-1	0.00002

NKCC-2

- Substance / mixture distinction: Mixture

Ingredient name	CAS#	% by weight
Iron(II) sulfate heptahydrate	7782-63-0	0.000075

Cobalt(II) chloride hexahydrate	7791-13-1	0.00000001
Hexaammonium Heptamolybdate Tetrahydrate	12054-85-2	0.00000001
Sodium Selenite	10102-18-8	0.0000017
Cyanocobalamin	68-19-9	0.00001

NKCC-c

- Substance / mixture distinction: Mixture

Ingredient name	CAS#	% by weight
Potassium chloride	7447-40-7	0.02

Balance of other components are non-hazardous based on OSHA 29CFR 1200 and GHS ver.6 or each of the other components are present in less than cut off values.

4. First-Aid Measures

- By using this product, if injury occured, seek medical advice immediately.

Specific first aid measures are as follows:

- Inhalation: Remove to fresh air and keep victim still. Get medical attention.
  Cover the body with a blanket and keep victim warm and still.
- Skin contact:Wash with soap and copious amount of water. Get medical attention if irritation occurs.
- Eye contact: Wash your eyes with water for more than 15 minutes. Get ophthalmic care immediately.
  Pull your eyelids open with your fingers and flush eyes well with water.
- Ingestion: Flush your mouth thoroughly with water. Do NOT induce vomiting.

5. Fire-Fighting Measures

- Suitable extinguishing agent: This product is not inflammable. Use an extinguishing agent suitable for the surrounding fire.
- Extinguishing agent not to be used: This product itself is nonflammable.
  Use extinguishing agents suitable for surrounding fires.
- Flash point: Not applicable.
- Inflammability/Explosion limit (lower limit) Vol %: Not applicable.
- Inflammability/Explosion limit (higher limit) Vol %: Not applicable.
- Protection of firefighters: Extinguish fires from upwind. Use protective clothing as needed.
- Specific hazards arising from the chemical : None known.

6. Accidental Release Measures

- Personal precautions, protective equipment and emergency measures:Use protective apparatus in accordance with
  section 8.
- Environmental precautions: Collected waste should not be disposed into the drainage, the sewers, and the rivers.Follow the environmental control law of local and of the counties concerned.
- Methods and equipment for purification such as recovery, neutralization and the like: Contain spillage with absorbent material and collect them in a suitable container. For large spillage, absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into the drainage, the sewers, or confined

spaces.

7. Handling and Storage

- Handling precautions

Measures to prevent exposure of handling persons: Use protective apparatus while handling the product.
Appropriate technical measures such as prevention of fire and explosion: No special requirement.
Measures to prevent the occurrence of aerosol and dust: No special requirement.

- Precautions on storage

Materials that should not be mixed: Chemical substances: No information.
Storage conditions: Keep refrigerated(2 to 8°C) and locked. Avoid direct sun light.
Others: Provide proper fire extinguishing agent and spill containment materials where you keep the product.

8. Exposure controls/personal protection

- Exposure prevention

Exposure limit value: No information available.
Acceptable concentration of biological indicators: No information.
Equipment measures to reduce exposure as much as possible (sealing facilities, installing cleaning equipment, etc.):Strictly follow procedures, use total and partial ventilation and keep adequate ventiration and air, and keep airborn levels below recommended exposure limit.

- Protective measures

Appropriate protective equipment
Hand protection: For normal use and handling, there is no special requirement.For hygiene, use of gloves is recommended.
Eye protection: Generally, there is no special request. Under normal conditions of use, no protective glasses are required.
Respiratory protection: Generally, there is no special request.
Skin and body protection: Wear work uniform and use protective clothing.
General protection and hygiene measures: Wash your hands before taking break and after handling.

9. Physical and Chemical Properties

NKCC-1

- Appearance of chemicals (physical state, form): Liquid
  (Color): orange-red
- Odor: Odorless
- Odor threshold: No data available.
- Melting point/freezing point: No data available.
- Initial boiling point and boiling range: Approximately 100°C.
- Flash point: No data available.
- Auto-ignition temperature: No data available.
- Upper and lower flammability or explosive limits: No data available.
- Vapor pressure: No data available.
- Vapor density: No data available.
- Specific gravity (relative density) (@20°C): Approximately 1.0.
- Partition coefficient: No data available.
- Decomposition temperature: No data available.

- Viscosity: No data available.
- Explosive properties: No data available.
- Oxidizing properties: No data available.
- Solubility: Miscible with water.
- pH value (25 °C):7.1 to 7.7

NKCC-2

- Appearance of chemicals (physical state, form): Liquid
  (Color): Yellowish orange
- Odor: Odorless
- Odor threshold: No data available.
- Melting point/freezing point: No data available.
- Initial boiling point and boiling range: Approximately 100°C.
- Flash point: No data available.
- Auto-ignition temperature: No data available.
- Upper and lower flammability or explosive limits: No data available.
- Vapor pressure: No data available.
- Vapor density: No data available.
- Specific gravity (relative density) (@20°C): Approximately 1.0.
- Partition coefficient: No data available.
- Decomposition temperature: No data available.
- Viscosity: No data available.
- Explosive properties: No data available.
- Oxidizing properties: No data available.
- Solubility: Miscible with water.
- pH value (25 °C):7.0 to 7.2

NKCC-c

- Appearance of chemicals (physical state, form): Liquid
  (Color): Transparent
- Odor: Odorless
- Odor threshold: No data available.
- Melting point/freezing point: No data available.
- Initial boiling point and boiling range: Approximately 100°C.
- Flash point: No data available.
- Auto-ignition temperature: No data available.
- Upper and lower flammability or explosive limits: No data available.
- Vapor pressure: No data available.
- Vapor density: No data available.
- Specific gravity (relative density) (@20°C): Approximately 1.0.
- Partition coefficient: No data available.
- Decomposition temperature: No data available.
- Viscosity: No data available.
- Explosive properties: No data available.

- Oxidizing properties: No data available.
- Solubility: Miscible with water.
- pH value (25 °C):7.1 to 7.7

10. Stability and Reactivity

- Reactivity : No dangerous reaction known under conditions of normal use.
- Chemical stability : The product is stable under normal conditions of use.
- Possibility of hazardous reactions : None under normal processing.
- Condition to avoid : Sun light, high temperature
- Incompatible dangerous substances: No known.

11. Toxicological Information

- Acute toxicity: There is no acute toxicity date of the product. Acute toxicity data of each component is as follows.

NKCC-1

Ingredient	CAS#	LD50 value (median lethal dose) ※data shown at 100%	Content (%)
Sodium Selenite	10102-18-8	Oral (rat) LD50:6750 μg/kg (RTECS) Inv(rat) LD50:3 mg/kg (RTECS)	0.00000114
Potassium nitrate	7757-79-1	Oral (rat) LD50:3540 mg/kg (RTECS)	0.0000076
Cyanocobalamin	68-19-9	Subcutaneous (rat) LD50:>50 mg/kg (RTECS) Abdominal (rat) LD50:>50 mg/kg (RTECS) Abdominal (mus) LD50:280 mg/kg (RTECS)	0.0000013
Monoethanolamine	141-43-5	Oral (rat) LD50:172 mg/kg (RTECS)	0.0000037
Linoleic Acid	60-33-3	Oral (rat) LD50:>50 mg/kg (RTECS)	0.00002
Oleic Acid	112-80-1	Inv(rat) LD50:230 mg/kg (RTECS)	0.00002

- Dermal corrosion/ irritation: No data available.
- Serious eye damage or eye irritation: No data available.
- Respiratory sensitization or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Specific target organ toxicity(single exposure): No data available.
- Specific target organ toxicity(recurrent exposure): No data available.
- Aspiration hazard: No data available

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Ingredient	CAS#	LD50 value (median lethal dose) ※data shown at 100%	Content (%)
Iron(II) Sulfate Heptahydrate	7782-63-0	Oral (mus) LD50:1520 mg/kg (RTECS)	0.000075
Cobalt(II) chloride hexahydrate	7791-13-1	Oral (rat) LD50:358 mg/kg/day	0.00000001

Hexaammonium Heptamolybdate Tetrahydrate	12054-85-2	Oral (rat) LD50:333 mg/kg	0.00000001
Sodium Selenite	10102-18-8	Oral (rat) LD50:7 mg/kg	0.0000017
Cyanocobalamin	68-19-9	Subcutaneous (rat) LD50:>50 mg/kg (RTECS) Abdominal (rat) LD50:>50 mg/kg (RTECS) Abdominal (mus) LD50:280 mg/kg (RTECS)	0.00001

- Dermal corrosion/ irritation: No data available.
- Serious eye damage or eye irritation: No data available.
- Respiratory sensitization or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Specific target organ toxicity(single exposure): No data available.
- Specific target organ toxicity(recurrent exposure): No data available.
- Aspiration hazard: No data available.

NKCC-c

Ingredient name	CAS#	LD50 value (median lethal dose) ※data shown at 100%	% by weight
Potassium chloride	7447-40-7	No data available.	0.02

- Dermal corrosion/ irritation: No data available.
- Serious eye damage or eye irritation: No data available.
- Respiratory sensitization or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: No data available.
- Specific target organ toxicity(single exposure): No data available.
- Specific target organ toxicity(recurrent exposure): No data available.
- Aspiration hazard: No data available.

12. Ecological Information

- Ecotoxicity: No data available.
- Persistence and degradability:
  Biodegradability: Not readily biodegradable
- Bioaccumulation: No data available.
- Mobility in soil: No data available.
- Ozone layer hazard: No data available.

13. Disposal Considerations

- Safe, environmentally desirable method of disposal: Dispose of via a licensed waste disposal contractor.
- Appropriate treatment method for containers and packaging: Dispose of via a licensed waste disposal contractor.

- Precautions: Avoid contaminating the ground water, the rivers, and the sewers.

14. Transport information

Department of Transportation (DOT):

- Product name: Not regulated.
- United Nations classification: Not regulated
- United Nations number: Not regulated.
- Packing group: Not regulated.

IATA/ ICAO:

- Product name: Not regulated.
- United Nations number: Not regulated.
- United Nations classification: Not regulated.
- Packing group : Not regulated.

Marine Transport (IMO/ IMDG):

- Product name: Not regulated.
- United Nations number: Not regulated.
- United Nations classification: Not regulated.
- Packing group: Not regulated.
- EMS NO. Emergency measure for transportation of IMDG: No rules.
- Precaution statement: Inspect any damages and package seal before transportation. Make sure that there is no damage and freight is secured during transportation.

15. Regulatory Information

- Information Related to Regulation of Chemicals Management Systems in Japan:

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- Occupational Health and Safety Law:
  Dangerous goods and harmful substances to be notified of names etc. (Attachment Table 1-3 of Article 1, 6 and 9-3 of the Enforcement Order No. 4 Oxidizing: Potassium nitrate
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 21: Monoethanolamine
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 333: Sodium Selenite
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 172: Cyanocobalamin
- Poisonous and Deleterious Substances Control Law:
  Poison:Sodium Selenite ※ Excludes formulations containing 0.00011% or less.
  Deleterious substance: Monoethanolamine ※ Excludes formulations containing 20% or less.
- Pollutant Release and Transfer Register (PRTR):
  Class 1 designated chemical substance No.242: Sodium Selenite
  Class 1 designated chemical substance No.20: Monoethanolamine
  Class 1 designated chemical substance No.132: Cyanocobalamin
- Fire Defense Law:
  Dangerous Goods Class I Nitrates Class Risk Grade I: Potassium nitrate

Dangerous Goods Class IV Third Oil Class Risk Grade III: Monoethanolamine
Dangerous Goods Class IV Third Oil Class Risk Grade III: Oleic acid
Dangerous Goods Class IV Third Oil Class Risk Grade III: Linoleic acid

- The Water Pollution Prevention Act:
  Designated substances(Article 2-1 of the Enforcement Order): Potassium nitrate
  Designated substances(Article 2-1 of the Enforcement Order): Sodium Selenite
- Law Concerning the Examination and Regulation of Manufacture:
  Priority evaluation chemical substance: Monoethanolamine
- TSCA status: This product can be used solely for research and development because not registered on TSCA inventory.
- OSHA status: Not regulated.
- California Proposition 65: Not listed

NKCC-2

- Occupational Health and Safety Law:
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 333: Sodium Selenite
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 172: Cyanocobalamin
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 172: Cobalt(II) Chloride Hexahydrate
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 603: Hexaammonium Heptamolybdate Tetrahydrate
  Dangerous goods and harmful substances to be notified of names etc. (Article 57-2 of the Law, Attachment Table 9 of Article 18-2 of the Enforcement Order No. 352: Iron(II) Sulfate Heptahydrate
- Poisonous and Deleterious Substances Control Law:
  Poison:Sodium Selenite ※ Excludes formulations containing 0.00011% or less.
- Pollutant Release and Transfer Register (PRTR):
  Class 1 designated chemical substance No.242: Sodium Selenite
  Class 1 designated chemical substance No.132: Cobalt(II) Chloride Hexahydrate
  Class 1 designated chemical substance No.132: Cyanocobalamin
  Class 1 designated chemical substance No.453: Hexaammonium Heptamolybdate Tetrahydrate
- Fire Defense Law: Not regulated.
- The Water Pollution Prevention Act:
  Designated substances(Article 2-1 of the Enforcement Order): Sodium Selenite.
  Designated substances(Article 3-3 of the Enforcement Order): Hexaammonium Heptamolybdate Tetrahydrate
  Designated substances(Article 3-3 of the Enforcement Order): Iron(II) Sulfate Heptahydrate
- Law Concerning the Examination and Regulation of Manufacture: Not regulated.
- TSCA status: This product can be used solely for research and development because not registered on TSCA inventory.
- OSHA status: Not regulated.
- California Proposition 65: Not listed

NKCC-c

- Occupational Health and Safety Law: Not regulated.
- Poisonous and Deleterious Substances Control Law: Not regulated.
- Pollutant Release and Transfer Register (PRTR): Not regulated.
- Fire Defense Law: Not regulated.
- The Water Pollution Prevention Act: Not regulated.
- Law Concerning the Examination and Regulation of Manufacture: Not regulated.
- TSCA status: This product can be used solely for research and development because not registered on TSCA inventory.
- OSHA status: Not regulated.
- California Proposition 65: Not listed.

16. Other Information

The information above represents the best information currently available to us. However, Kohjin Bio Co., Ltd make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use.

Note: This product is for research use only.

References:

1. GHS (6th revised edition).
2. JIS Z 7253-2012.
3. Occupational Health and Safety Law.
4. Poisonous and Deleterious Substances Control Law.
5. Chemical Substances; Law Concerning the Examination and Regulation of Manufacture.
6. Fire Defense Law.
7. Pollutant Release and Transfer Register (PRTR).
8. The Sigma-Aldrich Library of Chemical Safety Data Edition II, Robert E. Lenga (1989).
9. The Merck Index 13th Edition, Merck & Co., Inc. (2001)

Abbreviations and Acronyms:
GHS-Globally Harmonized System of Classification and Labelling of Chemicals
IMO-International Maritime Organization
IMDG-International Maritime Dangerous Goods
IATA-International Air Transport Association
ICAO-International Civil Aviation Organization
TSCA-Toxic Substance Control Act
CWA-Clean Water Act
OSHA-Occupational Safety and Health Administration

This Material Safety Data Sheet is a translated version from Japanese.
Therefore, the content is based on the Japanese laws and regulations.

Material Data Sheet Revision Date: 03-01-2021
SDS: 1.0

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