



Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 09/22/2022

Reviewed on 09/22/2022

1 Identification

· **Product Identifier**

· **Trade Name:** Karnateq OTTR Universal cDNA Library Kit

· **Relevant identified uses of the substance or mixture and uses advised against:**

· **Product Description:**

A Molecular biology reagent kit for the production of cDNA suitable for sequencing or other downstream molecular analyses.

· **Details of the Supplier of the Safety Data Sheet:**

· **Manufacturer/Supplier:**

Karnateq Inc.
639 San Fernando Avenue
Berkeley, CA 94707
United States
1-510-859-8084
WWW.karnateq.com

· **Emergency telephone number:** 1-510-859-8084

2 Hazard(s) Identification

· **Classification of the substance or mixture:**



Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2B H320 Causes eye irritation.

· **Label elements:**

· **Hazard pictograms:**



· **Signal word:** Warning

· **Hazard-determining components of labeling:**

Potassium chloride

· **Hazard statements:**

H315+H320 Causes skin and eye irritation.

· **Precautionary statements:**

P264 Wash thoroughly after handling.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

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Unknown acute toxicity:

This value refers to knowledge of known, established toxicological or ecotoxicological values.

14.5 % of the mixture consists of component(s) of unknown toxicity.

· **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme· **NFPA ratings (scale 0 - 4)**· **HMIS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	0	Fire = 0
REACTIVITY	0	Physical Hazard = 0

· **Hazard(s) not otherwise classified (HNOC):** None known

3 Composition/Information on Ingredients

· **Chemical characterization: Substance**· **Description:** Mixture of substances listed below with non-hazardous additions.**Dangerous Components:**

CAS: 7447-40-7	Potassium Chloride	5-15%
CAS: 7783-20-2 RTECS: BS 4500000	Ammonium Sulfate ⚠ Skin Irritation 2, H315; Eye Irritation 2A, H319; Specific Target Organ Toxicity - Single Exposure 3, H335	5-15%
CAS: 74-79-3	Arginine ⚠ Eye Irritation 2A, H319	2-12%
CAS: 25322-68-3	Polyethylene Glycol	2-12%
CAS: 56-81-5 RTECS: MA 8050000	Glycerol	2-12%
CAS: 1185-53-1	Tris-HCl ⚠ Skin Irritation 2, H315; Specific Target Organ Toxicity - Single Exposure 3, H335; Eye Irritation 2B, H320	2-12%

Additional information:

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4 First-Aid Measures

Description of first aid measures· **General information:** Immediately remove any clothing soiled by the product.· **After inhalation:** In case of unconsciousness place patient stably in the side position for transportation.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Immediate medical treatment is necessary. Failure to treat burns can prevent wounds from healing.

After eye contact:

Rinse opened eye for several minutes under running water. Then consult a doctor.

If easy to do so, remove contact lenses if worn.

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- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed:** Treat symptomatically.

5 Fire-Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**
Ensure adequate ventilation.
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Dispose of the collected material according to regulations.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

PAC-1:

7440-09-7	Potassium chloride	2.3 mg/m ³
7783-20-2	Ammonium Sulfate	13 mg/m ³
25322-68-3	Polyethylene Glycol	30 mg/m ³
56-81-5	Glycerol	45 mg/m ³
1185-53-1	Tris-HCl	12 mg/m ³
7786-30-3	Magnesium Chloride	11 mg/m ³

PAC-2:

7440-09-7	Potassium chloride	25 mg/m ³
7783-20-2	Ammonium Sulfate	140 mg/m ³
25322-68-3	Polyethylene Glycol	1,300 mg/m ³
56-81-5	Glycerol	180 mg/m ³
1185-53-1	Tris-HCl	130 mg/m ³
7786-30-3	Magnesium Chloride	120 mg/m ³

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· PAC-3:		
7440-09-7	Potassium chloride	150 mg/m ³
7783-20-2	Ammonium Sulfate	840 mg/m ³
25322-68-3	Polyethylene Glycol	7,700 mg/m ³
56-81-5	Glycerol	1,100 mg/m ³
1185-53-1	Tris-HCl	790 mg/m ³
7786-30-3	Magnesium Chloride	550 mg/m ³

7 Handling and Storage· **Handling**· **Precautions for safe handling:**

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**· **Storage**

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

· **Specific end use(s):** No further relevant information available.

8 Exposure Controls/Personal Protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters:**· **Components with occupational exposure limits:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

25322-68-3 Polyethylene Glycol

WEEL	Long-term value: 10 mg/m ³ (H); MW>200
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56-81-5 Glycerol

PEL	Long-term value: 15* 5** mg/m ³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**· **Personal protective equipment**· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.

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Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- **Eye protection:**



Tightly sealed goggles

- **Limitation and supervision of exposure into the environment:** None

9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Liquid

Color: Clear

- **Odor:** Odorless to mild

- **Odor threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range: Not determined.

- **Flash point:** None

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** Not applicable

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

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- **Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density:** Not determined.
- **Relative density:** Not determined.
- **Vapor density:** Not determined.
- **Evaporation rate:** Not determined.
- **Solubility in / Miscibility with:**
 - **Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
 - **Dynamic:** Not determined.
 - **Kinematic:** Not determined.
- **Other information:** No further relevant information available.

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Product is stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** Avoid strong oxidizers.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:

7783-20-2 Ammonium Sulfate

Oral	LD50	2,840 mg/kg (Rat)
Inhalative	LC50/96 hours	36.7 mg/l (Trout) 433 mg/l (Water flea)

25322-68-3 Polyethylene Glycol

Oral	LD50	>5,000 mg/kg (Rat)
Dermal	LD50	>5,000 mg/kg (Rabbit)
Inhalative	LC50/96 hours	10,000 mg/l (Fish - Poecilia reticulata, 96h)

56-81-5 Glycerol

Oral	LD50	12,600 mg/kg (Rat)
Dermal	LD50	>10,000 mg/kg (Rabbit)
Inhalative	LC50/96 hours	>50,000 mg/l (Trout)

- **Primary irritant effect:**
- **On the skin:**
Strong caustic effect on skin and mucous membranes.

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Corrosive effect on skin and mucous membranes.

Corrosive to skin and mucous membranes.

· **On the eye:**

Strong irritant with the danger of severe eye injury.

Corrosive effect.

Causes serious eye irritation.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories:**

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **NTP (National Toxicology Program):**

None of the ingredients are listed.

· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

12 Ecological Information

· **Toxicity:**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability:** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential:** No further relevant information available.

· **Mobility in soil:** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Must not reach bodies of water or drainage ditch undiluted or unneutralized.

· **Results of PBT and vPvB assessment:**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects:** No further relevant information available.

13 Disposal Considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household waste. Do not allow product to reach sewage system.

Observe all federal, state and local environmental regulations when disposing of this material.

· **Uncleaned packaging**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR/ADN, ADN, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
No further relevant information available.
- **SARA (Superfund Amendments and Reauthorization):**

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
7783-20-2 Ammonium Sulfate

TSCA (Toxic Substances Control Act):
All components have the value ACTIVE.

Hazardous Air Pollutants
None of the ingredients are listed.

California Proposition 65:
Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

New Jersey Right-to-Know List:
7440-09-7 Potassium chloride
25322-68-3 Polyethylene Glycol
56-81-5 Glycerol

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· New Jersey Special Hazardous Substance List:	
7440-09-7 Potassium chloride	F3, R2
· Pennsylvania Right-to-Know List:	
7440-09-7 Potassium chloride	
7783-20-2 Ammonium Sulfate	
25322-68-3 Polyethylene Glycol	
56-81-5 Glycerol	
· Pennsylvania Special Hazardous Substance List:	
7783-20-2 Ammonium Sulfate	E
· Carcinogenic categories:	
· EPA (Environmental Protection Agency):	
None of the ingredients are listed.	
· TLV (Threshold Limit Value established by ACGIH):	
None of the ingredients are listed.	
· NIOSH-Ca (National Institute for Occupational Safety and Health):	
None of the ingredients are listed.	

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms:**· Signal word:** Warning**· Hazard-determining components of labeling:**

Potassium chloride

· Hazard statements:

H315+H320 Causes skin and eye irritation.

· Precautionary statements:

P264 Wash thoroughly after handling.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

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

P332+P313 If skin irritation occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

· National regulations:

The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

· **Contact:**

· **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety & Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Eye Irritation 2B: Serious eye damage/eye irritation – Category 2B
Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

· *** Data compared to the previous version altered.**

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