

**RE-100 Small Volume Safety Data Sheet
And
RE-100 Material Safety Data Sheet**

Guidance Statement

The MSDS portion of this PDF has been prepared based on large volumes of chemistry. Adaptations have been made in the SVSDS portion to more accurately represent the small volume of chemistry in the kits.



Small Volume Safety Data Sheet

RE-100

1. Product and company identification

Product name	: RE-100
SVSDS #	: PD-SVSDS-00006
Material uses	: Stabilization of DNA in collection kit.
Supplier/Manufacturer	: DNA Genotek Inc Ottawa, ON, Canada, K2K 1L1 Tel: +1-613-723-5757 Fax: +1-613-723-5057 Toll Free: +1-866-813-6354 (North America) Toll Free: +1-613-723-5757 (all other countries) Email: support@dnagenotek.com Web site: www.dnagenotek.com
MSDS authored by	: KMK Regulatory Services inc.
<u>In case of emergency</u>	: For Emergencies involving dangerous goods call Canutec's 24-hour number 613-996-6666
Product type	: Liquid.

This document provides safety information for the small volumes of stabilizing solution that are present in each DNA Genotek product, and should be used in conjunction with PD-MSDS-00006 when the substance is in bulk.

2. Hazards identification

Physical state	: Liquid.
Signal word	: WARNING!
Hazard statements	: MAY CAUSE EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautions	: Follow good industrial hygiene practice. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<u>Potential acute health effects</u>	
Inhalation	: May cause respiratory tract irritation.
Ingestion	: May be harmful if swallowed.
Skin	: May be harmful if absorbed through skin. May cause skin irritation.
Eyes	: May cause eye irritation.
<u>Potential chronic health effects</u>	
Chronic effects	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
<u>Target organs</u>	: No known significant effects or critical hazards.
<u>Over-exposure signs/symptoms</u>	
Inhalation	: No specific data.



2. Hazards identification

Ingestion	: No specific data.
Skin	: Adverse symptoms may include the following: irritation
Eyes	: Adverse symptoms may include the following: irritation
Medical conditions aggravated by over- exposure	: None known.

See toxicological information (section 11)

3. Composition/information on ingredients

Refer to PD-MSDS-00006.

4. First aid measures

Eye contact	: Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
Skin contact	: Wash with soap and water. Get medical attention if symptoms occur.
Inhalation	: Supply fresh air. Get medical attention if symptoms occur.
Ingestion	: Wash out mouth with water. Get medical attention if symptoms occur.
Protection of first-aiders	: No special measures required.
Notes to physician	: No specific treatment.

5. Fire-fighting measures

Flammability of the product	: No specific fire or explosion hazard.
<u>Extinguishing media</u>	
Suitable	: Use an extinguishing agent suitable for the surrounding fire.
Not suitable	: None known.
Hazardous decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds
Special protective equipment for fire-fighters	: No special protection is required.

6. Accidental release measures

Personal precautions	: No special measures required.
Environmental precautions	: No special measures required.
<u>Methods for cleaning up</u>	
Small spill	: No special measures required.



7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Use only with adequate ventilation.
- Storage** : Store in accordance with local regulations. Store at room temperature. Store away from direct sunlight.

8. Exposure controls/personal protection

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	Notations
No known value.											

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Not required.
- Engineering measures** : No special measures required.
- Hygiene measures** : Follow good industrial hygiene practice.
- Personal protection**
- Respiratory** : Not required.
- Hands** : Use gloves appropriate for work or task being performed. Not required under normal conditions of use. Recommended: Disposable vinyl gloves.
- Eyes** : Not required under normal conditions of use. Recommended: Safety glasses.
- Skin** : Not required.
- Environmental exposure controls** : None.

9. Physical and chemical properties

Refer to PD-MSDS-00006.

10. Stability and reactivity

Refer to PD-MSDS-00006.

11. Toxicological information

Refer to PD-MSDS-00006.

12. Ecological information

Refer to PD-MSDS-00006.

13. Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.



14 . Transport information

DOT/TDG/MXT/IMDG/IATA : Not regulated.
Not restricted, Special Provision A58

15 . Regulatory information

Refer to PD-MSDS-00006.

16 . Other information

Refer to PD-MSDS-00006.



Material Safety Data Sheet

RE-100

1. Product and company identification

Product name	: RE-100
Material uses	: Stabilization of DNA in collection kit.
Supplier/Manufacturer	: DNA Genotek Inc Ottawa, ON, Canada, K2K 1L1 Tel: +1-613-723-5757 Fax: +1-613-723-5057 Toll Free: +1-866-813-6354 (North America) Toll Free: +1-613-723-5757 (all other countries) Email: support@dnagenotek.com Web site: www.dnagenotek.com
MSDS authored by	: KMK Regulatory Services inc.
<u>In case of emergency</u>	: For Emergencies involving dangerous goods call Canutec's 24-hour number 613-996-6666
Product type	: Liquid.

2. Hazards identification

Physical state	: Liquid.
Signal word	: WARNING!
Hazard statements	: CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautions	: Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<u>Potential acute health effects</u>	
Inhalation	: No known significant effects or critical hazards.
Ingestion	: May be harmful if swallowed.
Skin	: May be harmful if absorbed through skin. May cause skin irritation.
Eyes	: May cause eye irritation.
<u>Potential chronic health effects</u>	
Chronic effects	: Contains material that may cause target organ damage, based on animal data.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
<u>Target organs</u>	: Contains material which may cause damage to the following organs: skin, eyes, central nervous system (CNS).
<u>Over-exposure signs/symptoms</u>	
Inhalation	: No specific data.
Ingestion	: No specific data.
Skin	: Adverse symptoms may include the following: irritation



2. Hazards identification

- Eyes** : Adverse symptoms may include the following:
irritation
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
- See toxicological information (section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Sodium dodecyl sulphate	151-21-3	1 - 5
Lithium chloride	7447-41-8	1 - 5

Canada

Name	CAS number	%
Sodium dodecyl sulphate	151-21-3	1 - 5
Lithium chloride	7447-41-8	1 - 5

Mexico

Name	CAS number	UN number	%	IDLH	Classification			
					H	F	R	Special
Sodium dodecyl sulphate	151-21-3	Not regulated.	1 - 5	-	1	0	0	
Lithium chloride	7447-41-8	Not regulated.	1 - 5	-	1	0	0	

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call medical doctor or poison control center immediately.
- Protection of first-aiders** : No special measures required.
- Notes to physician** : No specific treatment.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.



5. Fire-fighting measures

Hazardous decomposition products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides
 halogenated compounds

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Avoid contact with eyes, skin and clothing. Empty containers retain product residue and can be hazardous.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
No known value.											

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.



8. Exposure controls/personal protection

- Engineering measures** : Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Hygiene measures** : Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Personal protection**
- Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Not required under normal conditions of use. Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits.
- Hands** : Use gloves appropriate for work or task being performed. Recommended: Not required under normal conditions of use. / Natural rubber (latex).
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses with side shields.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: No special protective clothing is required. / Lab coat.
- Environmental exposure controls** : None.

9. Physical and chemical properties

- Physical state** : Liquid.
- Flash point** : Closed cup: >93.3°C (>199.9°F) [Pensky-Martens.]
- pH** : 6.8

10. Stability and reactivity

- Chemical stability** : The product is stable.
- Conditions to avoid** : No specific data.
- Materials to avoid** : No specific data.
- Hazardous decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sodium dodecyl sulphate	LD50 Oral	Rat	1288 mg/kg	-
Lithium chloride	LD50 Dermal	Rabbit	1629 mg/kg	-
	LD50 Dermal	Rat	1488 mg/kg	-
	LD50 Oral	Rat	526 mg/kg	-

- Chronic toxicity** : No specific data.



12. Ecological information

Environmental effects : This material is toxic to aquatic life.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Sodium dodecyl sulphate	Acute LC50 1400 ug/L Marine water	Crustaceans - Acartia lillgeborgi - Adult	48 hours
	Acute LC50 1.26 mg/L Fresh water	Daphnia - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 590 ug/L Fresh water	Fish - Cirrhinus mrigala - LARVAE - 2 days - 4.5 mm - 51 mg	96 hours
Lithium chloride	Acute LC50 17000 ug/L Fresh water	Fish - Ptychocheilus lucius - Swim-up - 17 to 31 days	96 hours

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

DOT/TDG/MXT/IMDG/IATA : Not regulated.

15. Regulatory information

United States

HCS Classification : Irritating material
Target organ effects

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Sodium dodecyl sulphate; Lithium chloride
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
 Sodium dodecyl sulphate: Immediate (acute) health hazard, Delayed (chronic) health hazard;
 Lithium chloride: Immediate (acute) health hazard, Delayed (chronic) health hazard
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean Air Act (CAA) 112 accidental release prevention: No products were found.
Clean Air Act (CAA) 112 regulated flammable substances: No products were found.
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed



15 . Regulatory information

DEA List II Chemicals (Essential Chemicals) : Not listed

State regulations :

- Connecticut Carcinogen Reporting:** None of the components are listed.
- Connecticut Hazardous Material Survey:** None of the components are listed.
- Florida substances:** None of the components are listed.
- Illinois Chemical Safety Act:** None of the components are listed.
- Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.
- Louisiana Reporting:** None of the components are listed.
- Louisiana Spill:** None of the components are listed.
- Massachusetts Spill:** None of the components are listed.
- Massachusetts Substances:** None of the components are listed.
- Michigan Critical Material:** None of the components are listed.
- Minnesota Hazardous Substances:** None of the components are listed.
- New Jersey Hazardous Substances:** None of the components are listed.
- New Jersey Spill:** None of the components are listed.
- New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.
- New York Acutely Hazardous Substances:** None of the components are listed.
- New York Toxic Chemical Release Reporting:** None of the components are listed.
- Pennsylvania RTK Hazardous Substances:** None of the components are listed.
- Rhode Island Hazardous Substances:** None of the components are listed.

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists :

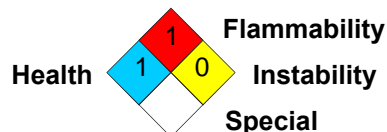
- CEPA Toxic substances:** None of the components are listed.
- Canadian ARET:** None of the components are listed.
- Canadian NPRI:** None of the components are listed.
- Alberta Designated Substances:** None of the components are listed.
- Ontario Designated Substances:** None of the components are listed.
- Quebec Designated Substances:** None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :



International regulations

International lists :

- Australia inventory (AICS):** Not determined.
- China inventory (IECSC):** All components are listed or exempted.
- Japan inventory:** Not determined.
- Korea inventory:** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** Not determined.



16 . Other information

United States

Hazardous Material : Health : 1 * Flammability : 1 Physical hazards : 0
Information System (U.S.A.)

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection : Health : 1 Flammability : 1 Instability : 0
Association (U.S.A.)

Canada

WHMIS (Canada) :



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - 29CFR Part1910.1200 OSHA MSDS Requirements. - 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005. - Official Mexican Standards NOM-018-STPS-2000 and NOM-004-SCT2-1994.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.