

Material Safety Data Sheet

According to EC Directive 2001/58/EC

Date prepared: 23.01.2002

Date changed: 10.10.2007

1 Product Information

Product name: MoleStrips™ DNA Blood

Product number: MG10-101

Manufacturer: Mole Genetics AS, Vollsveien 13D, N-1366 Lysaker, Norway
 Phone: +47 6710 1820, Telefax: +47 6710 1821

2 Hazardous Components/ Identity Information

Hazardous Components	CAS no.	EC No	Labeling accord. EC Directives	Content
Reagent 1: Magnetic Beads				
<u>No hazardous ingredients</u>				
Reagent 2: Lysis Buffer 1			Xn	
Guanidin- Hydrochlorid	50-01-1	200-002-3	R22-36/38	10-17%
Triton X-100	9002-93-1		Xn R22-41	1-2%
Reagent 3: Binding Buffer 2				
Sorbitan Sesquioleate	8007-43-0		R36/37/38	2.5%
Sodium Perchlorate*	7601-89-0	231-511-9	Xn R22	25-30%
Ethanol	64-17-5	200-578-6	F R10	35-45%
Reagent 4: Wash Buffer 3				
Sodium Perchlorate*	7601-89-0	231-511-9	Xn R22	15-20%
Ethanol	64-17-5	200-578-6	F R10	20-25%
Guanidin-Hydrochlorid	50-01-1	200-022-3	Xn R22-36/38	3-5%
Triton X-100	9002-93-1		Xn R22-41	< 1%
Reagent 5: Wash Buffer 4			F	

Ethanol	64-17-5	200-578-6	R10	20-25%
Sorbitan Sesquioleate	8007-43-0		R36/37/38	< 1%
<u>Sodium Perchlorate*</u>	<u>7601-89-0</u>	<u>231-511-9</u>	<u>O, Xn R22</u>	<u>10-15%</u>
Reagent 6: Wash Buffer 5				
<u>No hazardous ingredients</u>				
Reagent 7: Elution Buffer 5				
No hazardous ingredients				

(* Perchlorate solutions with concentrations below 70% are classified as non-oxidizing materials)

3 Health Hazard Data

Routes of entry: Inhalation, skin contact or eye contact from splashes.

Inhalation

Ethanol: may cause cough, drowsiness, headache or fatigue.

Guanidin-Hydrochloride, Triton X-100 and Sodium Perchlorate: may cause respiratory tract irritation.

Ingestion

Guanidin-Hydrochloride, Triton X-100 and Sodium Perchlorate: may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Skin contact

Ethanol: may dry skin, cause skin discoloration with irritation.

Guanidin-Hydrochloride, Triton X-100 and Sodium Perchlorate: may cause reddening, discomfort or mild irritation.

Eye contact

Splashes may cause reddening, discomfort or eye damage.

Carcinogenicity

Not listed

NTP?

N/A

IARC Monographs?

N/A

OSHA Regulated?

N/A

Chronic Exposure

Ethanol: may cause drying/cracking of skin. Repeated high exposure may damage liver, nervous system or blood cells.

Sodium Perchlorate: prolonged or repeated exposure may cause thyroid inhibition.

Medical conditions generally aggravated by exposure

Persons with pre-existing skin disorders, eye problems or liver function may be more susceptible to the effects.

4 Emergency and First Aid Procedures

Inhalation

If breathing becomes difficult, remove victim to fresh air. Seek medical assistance immediately.

Ingestion

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Skin contact

If skin contact occurs, wash skin with water and remove contaminated clothing. If contact with product leads to continued reddening, inflammation after rinsing with water, get medical attention.

Eye contact

Flush eye(s) with large volumes of water for at least 15 minutes. Get medical attention immediately.

5 Fire-fighting Procedures

Extinguishing media

Use dry chemical, carbon dioxide (CO₂) or appropriate foam.

Special fire-fighting procedures

Wear self-contained breathing apparatus and full protective gear.

Unusual fire and explosion procedures

Auto-ignition temperature of ethanol: 423°C.

6 Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled

Wear appropriate personal protective clothing as specified in section 8. Use non-sparking tools and equipment (ethanol). Use an inert absorbent material (e.g. vermicule, dry sand) to contain/ pick up the spilled solution. Place all contaminated disposables into a suitable container, seal, label and hold for disposal.

Waste Disposal

Please consult local, state and federal regulations for additional guidance and disposal.

7 Precautions to be taken in handling and Storage

Store in tightly closed containers. Ethanol: take measures against electrostatic loading. See package insert for further storage and handling information.

8 Control Measures

Respiratory protection

Respiratory protection is not required under normal use of this product.

Ventilation

A system of local and/or general exhaust is recommended. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

Protective gloves

Wear appropriate gloves to prevent skin contact

Eye protection

Wear appropriate eye protection to prevent eye contact.

Other protective clothing or equipment

Wear appropriate body protection to prevent skin contact. Eye wash stations and deluge showers.

Work and hygienic practices

Good laboratory technique should be used when handling this product. Observe appropriate chemical hygiene. Avoid contact with skin or eyes. Do not place in mouth. Do not eat, drink or smoke while working with product. Upon completion of work activities involving this product, wash hands thoroughly with soap and water.

9 Physical and Chemical Characteristics

Boiling point	N/A	Specific gravity (H ₂ O=1)	N/A
Vapor pressure (mm Hg)	N/A	Melting point	N/A
Vapor density (AIR=1)	N/A	Evaporation rate (Butyl Acetate=1)	N/A
Solubility in water	soluble in water		
Appearance and odor	Reagent 1:	suspension of brown polymer particles in water	
	Reagent 2-7:	all bottles contain aqueous solutions	

10 Reactivity Data

Stability

Stabile under normal handling and storage conditions

Incompatibility (materials to avoid)

Ethanol: strong oxidizing agents, potassium dioxide, bromine pentafluoride, acetyl bromide, acetyl chloride, platinum, sodium.

Sodium perchlorate: strong acids, finely powdered metals, magnesium, reducing agents (Perchlorate solutions with concentrations below 70% are classified as non-oxidizing materials), guanidine-hydrochloride, sorbitan sesquioleate: strong oxidizing agents.

Hazardous decomposition or byproducts

Guanidine-hydrochloride: hydrogen chloride, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Sodium perchlorate: hydrogen chloride, chlorine, oxides of chlorine.

Sorbitan sesquioleate: carbon monoxide, carbon dioxide.

Hazardous polymerization

No

Conditions to avoid

Heat, flames, ignition sources, incompatibles.

11 Toxicological Information

Toxicity data

Sodium perchlorate (undiluted): LD50 (rat, oral) = 2100mg/kg

Guanidine-Hydrochloride (undiluted): LD50 (mouse, oral) = 571 mg/kg; LD50 (rat, oral) = 475 mg/kg

Ethanol: TDLo (man) = 1.4 g/kg; LD50 (rat, oral) = 7060 mg/kg; Irritation (rabbit, skin) = 20 mg/24H = moderate reaction, (rabbit eye) = 500 mg/24H = mild, 500 mg = severe

Reproductive effects

Ethanol has been linked to defects in humans

Carcinogenicity

No

12 Ecological Information

Environmental fate/stability

Ethanol is expected to readily biodegrade when released into soil and water and is degraded when released into air.

Effect of material on plants or animals

N/A

Effect of chemical on aquatic life
Ethanol is not expected to be toxic to aquatic life. The LC50/69-hour values for fish are over 100 mg/L

13 Disposal considerations

Product

There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14 Transport Information

Is this material hazardous Yes

RID/ADR

Proper shipping name: Ethanol
Hazard class number: 3 Packaging group: II UN number: UN 1170

IMDG

Proper shipping name: Ethanol
Hazard class number: 3 Packaging group: II UN number: UN 1170
Marine pollutant: No Severe marine pollutant: No

IATA

Proper shipping name: Ethanol
Hazard class number: 3 Packaging group: II UN number: UN 1170

(additional information: sodium perchlorate solutions with relatively low concentrations existing in the listed reagents are classified as non-oxidizing).

15 Other Information

The information herein is believed to be correct as of the date hereof but is provided without warranty of any kind. The recipient of our products is responsible for ensuring that, where applicable, existing laws and guidelines are observed.

Reasons for alteration
Change in constituent data
General update

