

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : LavalAMP™ DNA Master Mix
Product form : Mixture
Product code : 30066-1, 30067-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Reducing agent used in molecular biology reactions, laboratory chemical.

1.3. Details of the supplier of the safety data sheet

Lucigen Corporation
2905 Parmenter Street
Middleton, WI 53562
U.S.A.
Phone: (608) 831-9011
Fax: (608) 831-9012
E-mail: techserv@lucigen.com

1.4. Emergency telephone number

Emergency number : 1-888-575-9695 (Lucigen: Monday-Friday, 8:00AM-5:00PM)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not a hazardous substance or mixture.

2.2. Label elements

GHS-US labelling elements, including precautionary statements

Not a hazardous substance or mixture.

2.3. Other hazards not otherwise classified or not covered by GHS

None.

2.4. Unknown acute toxicity (GHS-US)

No data available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Non-hazardous mixture

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, consult a physician. Show this safety data sheet to the doctor in attendance. Discard contaminated clothing. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a comfortable position for breathing. If not breathing, give artificial respiration. Consult a physician.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin for at least 15 minutes with tepid water. Consult a physician.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of tepid water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing. Consult a physician.

First-aid measures after ingestion : IF SWALLOWED: Rinse mouth thoroughly and consult a physician. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Not expected to present a significant acute hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation : May cause upper respiratory irritation.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

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4.3. Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : In case of fire, use carbon dioxide, dry chemical, alcohol-resistant foam, or other appropriate foam. Use agents most appropriate to extinguish the fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Product is not flammable, however, irritating and toxic fumes may form under fire conditions.

Explosion hazard : Product is not explosive.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ventilate area. Evacuate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment : Wear Personal Protective Equipment as described in Section 8.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, rubber gloves, rubber boots, respirator, and eye or face protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to drains, sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or inert absorbents (e.g., sand or vermiculite) to prevent migration and entry into sewers or streams. Do not allow product to enter drains.

Methods for cleaning up : Soak up spills with inert absorbents, such as sand or vermiculite as soon as possible. Place in closed waste container for disposal. This material and its container must be disposed of in a safe way, and as per local, state, and federal legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Wear recommended personal protective equipment and ensure working in an area with good ventilation. Wash hands and other exposed areas with mild soap and water after handling material, leaving the laboratory, before eating, drinking or smoking and when leaving work. Do not breathe in vapour, mist, or dust. Avoid creating dust or aerosols. Avoid prolonged or repeated exposure.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store at -20°C in a freezer without a defrost cycle. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limits.

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8.2. Exposure controls

Appropriate engineering controls : Exercise caution when handling. Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Ensure adequate ventilation, especially in confined areas. Emergency safety shower and eye wash station should be available. Avoid prolonged or repeated exposure.

Personal protective equipment : Gloves. Protective goggles. Laboratory Coat.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suitable gloves for this specific application can be recommended by the glove supplier. Gloves should be compatible with solvent if dissolved.

Eye protection : Safety goggles should be worn when working with mixture. Avoid direct contact with eyes.

Skin and body protection : As needed, wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH/MSHA-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment. Do not breathe in vapour, mist, or dust.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties of glycerol

Physical state	: Liquid, contains dissolved powder
Color	: Clear solution at room temperature
Odor	: No data available
Odor Threshold	: No data available
pH	: 6.2
Melting point	: 103-104°C (un-dissolved solid)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility in Water	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

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10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

None known. Hazardous polymerization does not occur.

10.4. Conditions to avoid

Excess heat.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: LD50 Oral – Rat – 3,500 mg/kg (Sodium Chloride)
	: LC50 Inhalation – Rat – 1 hr - > 42,000 mg/m ³ (Sodium Chloride)
	: LD50 Dermal – Rabbit – 10,000 mg/kg (Sodium Chloride)
Skin corrosion/irritation	: No data available
Serious eye damage/irritation	: No data available
Respiratory or skin sensitisation	: No data available
Germ cell mutagenicity	: No data available
Carcinogenicity	:
IARC	: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP	: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
OSHA	: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.
Reproductive toxicity	: No data available
Specific target organ toxicity (single exposure)	: No data available
Specific target organ toxicity (repeated exposure)	: No data available
Aspiration hazard	: No data available
Symptoms/injuries after inhalation	: May cause upper respiratory irritation.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: Direct contact with the eyes is likely to be irritating.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation.
Additional Information	: RTECS# VZ4725000. Vomiting, dehydration, diarrhoea, and congestion of the internal organs may occur if Sodium Chloride is ingested.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to Fish	: LC50 – <i>Lepomis macrochirus</i> (Bluegill) – 5840 mg/L, 96 hr (Sodium Chloride)
Toxicity to daphnia and other aquatic invertebrates	: NOEC – <i>Daphnia</i> (water flea) – 1,500 mg/L – 7 Days (Sodium Chloride)
	: LC50 – <i>Daphnia magna</i> (Water flea) – 1,661 mg/L, 48 hr (Sodium Chloride)

12.2. Persistence and degradability

No additional information available.

12.3. Bioaccumulative potential

No additional information available.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

No additional information available.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Product should not be discharged to surface waters without a NPDES permit.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local, state, and federal regulations. Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312

No SARA Hazards

SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

15.2. International regulations

Not a hazard.

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

New Jersey Right to Know Hazardous Substance List

No components are subject to the New Jersey Right to Know List.

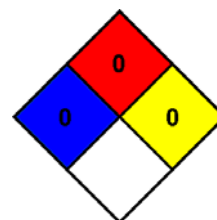
Pennsylvania Right to Know List

No components are subject to the Pennsylvania Right to Know List.

SECTION 16: Other information

- Indication of changes : Revision 1.0
- Revision date : 02/24/2017
- Other information : Author: Lucigen Corporation

- NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
- NFPA fire hazard : 0 - Materials that will not burn.
- NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



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HMIS III Rating

Health	: 0
Flammability	: 0
Physical	: 0
Personal Protection	:

This information is disclosed to the best of Lucigen's knowledge. This document does not constitute a contractual relationship with product end users or handlers with respect to the possible presence of hazards in this item. Disposal should be in accordance with applicable regional, national and local laws and regulations.