MATERIAL SAFETY DATA SHEET

SECTION 1 – Product & Company Information

Product Name: **Lumisol I™ Hybridization Solution**
Catalog No.: **40-5022-20; 40-5022-XX**

Company Information: Gene Link, Inc.
E-mail: **cust_service@genelink.com**
Telephone: **1-914-769-1192; Toll Free in North America 1-800-436-3546**
Fax: **1-914-769-9096**
Address: **190 Saw Mill River Road**
Hawthorne, NY 10532, USA

Emergency Number: **Chemtrec (800) 424-9300**

SECTION 2– Composition & Ingredient Information

Mixture of substances listed below with non-hazardous additions. Aqueous based proprietary ingredients containing, buffers, NaCl and other non hazardous chemicals. Contains ~50% Formamide [CAS: 75-12-7] that can be classified as an irritant.

Component	% Comp.	CAS #	EINECS #	TLV (Units)	CHIP R & S Phrases
Formamide	>99	75-12-7	200-842-0	10 ppm TWA	R:61May cause harm to the unborn child. S:53 Avoid exposure-Obtain special instructions before use. S:45 In case of accident or if you feel unwell seek medical advice immediately (show label where possible).

SECTION 3– Hazard Identification

Hazard Description:
CHIP
Formamide: Toxic to Reproduction, Category 2
HCS
Formamide: Teratogen. Irritant

SECTION 4– First Aid Measures

EYES: Flush with water for 15 minutes. Seek medical advice if irritation persists.
SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.
INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.

INGESTION: Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

SECTION 5– Fire Fighting Measures

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Formamide decomposes at temperatures > 180°C. Formamide is incompatible with alkali and acids. Thermal decomposition of Formamide may produce carbon monoxide and nitrogen oxides.
Flash Point = 154°C (310°F) for Formamide.

SECTION 6– Accidental Release Measures

Person-related safety precautions: Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH approved respirator. Collect in a manner that does not create dust and place in a suitable waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.
Measures for environmental protection: Do not allow to enter sewers/ surface or ground water.
Measures for cleaning/collecting:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

SECTION 7– Handling & Storage

Wear appropriate personal protective equipment and clothing including lab coat, safety goggles, gloves and NIOSH approved respirator. Avoid contact of material with skin or eyes. Use adequate ventilation. Store at -20°C away from incompatible materials. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Store as labeled.

SECTION 8– Exposure Controls & Personal Protection

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH approved respirator. A qualified industrial hygienist should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash. Pregnant women and women of child-bearing age should limit exposure to Formamide.
Eyes: Safety glasses are considered minimum protection.
Skin: Protective gloves and clothing are required.

SECTION 9– Physical & Chemical Properties

Boiling point	210C (410F)	**Evaporation Rate**	< 1 (BuAc = 1)
Melting point	2-3C (36-37F)	**Solubity in water**	Infinitely soluble
Vapor pressure (mmHg)	1 @ 71C	**pH**	7.1
Vapor density (Air = 1)	1.55 (air = 1)	**Specific gravity (H2O = 1)**	1.13 @20C
% volatile by volume	100		

SECTION 10– Stability & Reactivity Data
Product is stable. Formamide decomposes at temperatures > 180°C. Formamide is incompatible with alkali and acids. Thermal decomposition of Formamide may produce carbon monoxide and nitrogen oxides. Hazardous polymerization will not occur.

SECTION 11– Toxicological Information
EFFECTS OF OVEREXPOSURE:
EYES: Contact may cause irritation. May cause corneal clouding.
SKIN: Contact may cause irritation. May be absorbed through the skin. Symptoms may parallel ingestion.
INHALATION: May cause irritation to mucous membranes and upper respiratory tract. Symptoms may include coughing and shortness of breath.
INGESTION: Chronic ingestion or excessive dosage may cause central nervous system disorders, headache, dizziness, nausea, vomiting, abdominal pain, and unconsciousness. May affect the reproductive system. May cause damage to liver and denatures proteins. Has caused embryo toxicity and birth defects in animal studies.
ADDITIONAL INFORMATION:
Reproductive effects, irritation, mutation, and toxicity data for Formamide listed in RTECS under LQ0525000.
Oral Rat LD50 = 5577 mg/kg (Moscow, USSR - 1967). Toxic effects may included convulsions, proteinuria, changes in leukocyte (WBC) count, changes in platelet count, dermatitis and death.
Reproductive: Effects on embryo or fetus included fetotoxicity (except death, e.g. stunted fetus)(1971) and fetal death (1977).
Specific developmental abnormalities - musculoskeletal system and craniofacial (1971).
Fertility - post implantation mortality (e.g. dead and/or reabsorbed implants per total number of implants) (1980).
Definitions: RTECS = Registry of Toxic Effects of Chemical Substances.
ACGIH = American Conference of Governmental Industrial Hygienists.
NIOSH = National Institute for Occupational Safety and Health.

SECTION 12– Ecological Information
When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is expected to leach into groundwater. This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life of less than 1 day.

SECTION 13– Disposal Considerations
Must not be disposed together with household garbage. Do not allow product to reach sewage system. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids).
Disposal must be made according to official Federal and State regulations.

SECTION 14– MSDS Transport Information
D.O.T.
Proper Shipping Name: Not regulated
Hazard Class: N.A.
UN Number: N.A.
Packing Group: N.A.

I.A.T.A.
Proper Shipping Name: Not regulated
Hazard Class: N.A.
UN Number: N.A.
Packing Group: N.A.

I.M.O.
Proper Shipping Name: Not regulated
Hazard Class: N.A.
UN Number: N.A.
Packing Group: N.A.

SECTION 15– Regulatory Information

RCRA - No applicable information.
SARA 302 - This material does not have an RQ or a TPQ.
SARA 313 - This material is not reportable under Section 313.
EPA TSCA Section 8(b) - For Formamide: Chemical Inventory.
Exposure Limits - For Formamide: ACGIH TLV-TWA 18 mg/m3 (10 ppm)(skin).
NIOSH REL to Formamide-air: 10H TWA 10 ppm (Sk).
California Proposition 65 - No applicable information

Europe

EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

SECTION 15– Other Information

This data sheet is based upon information believed to be reliable. The Company makes no statement or warranty as to the accuracy or completeness of the information contained herein which is offered for your consideration, investigation and verification. Any use of the information contained in this data sheet must be determined by the user to be in accordance with appropriate applicable regulations.