Safety Data Sheet

Document Group:	31-4570-3	**Version Number:**	2.00
Issue Date:	04/01/15	**Supercedes Date:**	03/07/13

SECTION 1: Identification

1.1. Product identifier
3M™ Light Guide Resin RE1001 (Part B)

Product Identification Numbers
75-3472-2644-3

1.2. Recommended use and restrictions on use

Recommended use
Automotive - Industrial/Professional use, Lighting

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification
Skin Sensitizer: Category 1.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark |

Pictograms

Hazard Statements
May cause an allergic skin reaction.

Precautionary Statements

Prevention:
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified
None.

2% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
1,4-BUTANEDIOL, POLYESTER WITH 2-OXEPANONE	31831-53-5	65 - 90
EPSILON-CAPROLACTONE-TRIMETHYLOLPROPANE POLYMER	37625-56-2	10 - 30
PHOSPHOROUS ACID, TRIS(ISODECYL) ESTER	25448-25-3	< 2
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	2082-79-3	< 2
1,4-BUTANEDIOL	110-63-4	< 2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid skin contact with hot material. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	2082-79-3	CMRG	TWA:10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Liquid

Specific Physical Form:	Waxy Solid low temperature; Liquid at room temperature
Odor, Color, Grade:	Clear odorless
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point	<=10 ºC
Boiling Point	*No Data Available*
Flash Point	>=175 ºC [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	*No Data Available*
Vapor Density	*Not Applicable*
Density	1,073 kg/m3 [@ 20 ºC]
Specific Gravity	1.07 [*Ref Std:* WATER=1]
Solubility in Water	*Not Applicable*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	365 ºC [*Test Method:* Setchkin]
Decomposition temperature	150 ºC [*Details:* Material decomposes over 150 ºC]
Viscosity	300 - 600 centipoise [@ 25 ºC]
Volatile Organic Compounds	*Not Applicable*
Percent volatile	Negligible
VOC Less H2O & Exempt Solvents	*Not Applicable*

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Sparks and/or flames
Temperatures above the boiling point

10.5. Incompatible materials
Combustibles

10.6. Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be

reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:
Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
May be harmful if swallowed.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
1,4-BUTANEDIOL, POLYESTER WITH 2-OXEPANONE	Ingestion	Rat	LD50 > 2,000 mg/kg
EPSILON-CAPROLACTONE-TRIMETHYLOLPROPANE POLYMER	Ingestion		LD50 > 2,000 mg/kg
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Dermal	Rat	LD50 > 2,000 mg/kg
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.8 mg/l
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Rat	LD50 > 5,000 mg/kg
1,4-BUTANEDIOL	Dermal	Rat	LD50 > 5,000 mg/kg
1,4-BUTANEDIOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
1,4-BUTANEDIOL	Ingestion	Rat	LD50 1,500 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Rabbit	Minimal irritation
1,4-BUTANEDIOL	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-,	Rabbit	Mild irritant

OCTADECYL ESTER		
1,4-BUTANEDIOL	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Human and animal	Some positive data exist, but the data are not sufficient for classification
1,4-BUTANEDIOL	Human and animal	Not sensitizing

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	In Vitro	Not mutagenic
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	In vivo	Not mutagenic
1,4-BUTANEDIOL	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Not toxic to female reproduction	Rat	NOAEL 421 mg/kg/day	2 generation
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 375 mg/kg/day	2 generation
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 421 mg/kg/day	2 generation
1,4-BUTANEDIOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1,4-BUTANEDIOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 4.6 mg/l	4 hours
1,4-BUTANEDIOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
1,4-BUTANEDIOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration

HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	heart | endocrine system | respiratory system	All data are negative	Rat	NOAEL 300 mg/kg/day	28 days
HYDROCINNAMIC ACID, 3,5-DI-TERT-BUTYL-4-HYDROXY-, OCTADECYL ESTER	Ingestion	hematopoietic system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
1,4-BUTANEDIOL	Inhalation	heart | blood | liver | immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 5.2 mg/l	2 weeks
1,4-BUTANEDIOL	Inhalation	nervous system | kidney and/or bladder	All data are negative	Rat	NOAEL 0.5 mg/l	4 months
1,4-BUTANEDIOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	28 days

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit **http://3M.com/Transportinfo** or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification
Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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