Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier
Glutarex 2%

Product Identification Numbers
IA-4201-0079-3 IA-4201-0080-1

1.2. Recommended use and restrictions on use

Recommended use
Disinfectant

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-39143000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-39143000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2A
Skin Corrosion/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (single exposure): Category 1.
Acute Aquatic Toxicity: Category 3.

2.2. Label elements
Signal Word

DANGER!

Symbols
Health Hazard |

Pictograms

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H370	Causes damage to organs: liver
H402	Harmful to aquatic life.

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P285	In case of inadequate ventilation wear respiratory protection.
P280E	Wear protective gloves.

Response:

P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	80 - 100
GLUTARALDEHYDE	111-30-8	1 - 5

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
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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.

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. 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
For industrial or professional use only. Do not breathe dust/fume/gas/mist/vapours/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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from oxidising agents.

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	CAS Nbr	Agency	Limit type	Additional comments
GLUTARALDEHYDE	111-30-8	ACGIH	CEIL:0.05 ppm	A4: Not class. as human carcin, Dermal/Respiratory Sensitizer

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
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/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

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.
Gloves made from the following material(s) are recommended: Neoprene.

f 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: Neoprene apron.

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 vapours

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Emulsion
Appearance/Odour	colorless
Odour threshold	*Not applicable.*
pH	4.4
Melting point/Freezing point: NA	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	*Not applicable.*
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapour density	*Not applicable.*
Density	1.005 g/cm3
Relative density	*Not applicable.*
Water solubility	*Not applicable.*
Solubility- non-water	*Not applicable.*
Partition coefficient: n-octanol/water	*Not applicable.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*Not applicable.*
Viscosity	0.005 Pa-s

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 polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Sparks and/or flames.

10.5 Incompatible materials
Strong oxidising agents.

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 labelling, 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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin contact
Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion
No known health effects.

Additional Health Effects:

Single exposure may cause target organ effects:
Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg

Glutarex 2%

GLUTARALDEHYDE	Dermal	Rabbit	LD50 2,560 mg/kg
GLUTARALDEHYDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.28 mg/l
GLUTARALDEHYDE	Ingestion	Rat	LD50 134 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
GLUTARALDEHYDE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
GLUTARALDEHYDE	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
GLUTARALDEHYDE	Human and animal	Sensitising

Respiratory Sensitisation

Name	Species	Value
GLUTARALDEHYDE		Sensitising

Germ Cell Mutagenicity

Name	Route	Value
GLUTARALDEHYDE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
GLUTARALDEHYDE	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
GLUTARALDEHYDE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 65 mg/kg/day	2 generation
GLUTARALDEHYDE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
GLUTARALDEHYDE	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 16.1 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
GLUTARALDEHYDE	Inhalation	liver	Causes damage to organs	Mouse	NOAEL 0.033 mg/l	24 hours
GLUTARALDEHYDE	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	

Glutarex 2%

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
GLUTARALDEHYDE	Ingestion	nervous system	All data are negative	Rat	NOAEL 323 mg/kg/day	14 weeks

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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
GLUTARALDEHYDE	111-30-8	Water flea	Experimental	48 hours	EC50	0.35 mg/l
GLUTARALDEHYDE	111-30-8	Green algae	Experimental	96 hours	EC50	2.1 mg/l
GLUTARALDEHYDE	111-30-8	Rainbow trout	Experimental	96 hours	LC50	3.5 mg/l
GLUTARALDEHYDE	111-30-8	Green algae	Experimental	96 hours	NOEC	0.625 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Water	7732-18-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
GLUTARALDEHYDE	111-30-8	Experimental Biodegradation	28 days	BOD	59 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Water	7732-18-5	Data not	N/A	N/A	N/A	N/A

		available or insufficient for classification				
GLUTARALDEHYDE	111-30-8	Estimated Bioconcentration		Log Kow	-0.18	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other Adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods
See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate 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.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA)Regulations
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information.

Applicable Environmental, Health and Safety Regulations
Bio Medical Waste (Management & Handling) Rules, 1998

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The Product is classified as Non-Hazardous

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.

Revision information:

Section 03: Material is a mixture standard phrase information was modified.
Section 1: Product identification numbers information was modified.
Section 1: Product name information was modified.
Section 11: Aspiration Hazard text information was added.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Target Organs - Single Table information was modified.
Section 15: MSIHC Part I of Schedule I ingredients information was added.
Section 6: Accidental release personal information information was modified.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.

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