MATERION

SAFETY DATA SHEET

1. Identification

Product identifier MEG-150 Epoxy

Other means of identification

SDS number F01

Recommended use Manufacture of computer, electronic and optical products, electrical equipment
Scientific research and development
Other: Manufacture of medical and defense equipment

Recommended restrictions Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Consumer uses: Private households (= general public = consumers)

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Materials

Address 6070 Parkland Boulevard
Mayfield Heights, OH 44124
United States

Telephone 1.216.383.4019

Website www.materion.com

E-mail ehs@materion.com

Contact person Theodore Knudson

Emergency phone number See Section 16.

Supplier See above.

2. Hazard identification

Physical hazards Not classified.

Health hazards

Acute toxicity, dermal	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Sensitization, skin	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2
Reproductive toxicity	Category 1
Specific target organ toxicity, single exposure	Category 1
Specific target organ toxicity, repeated exposure	Category 1

Environmental hazards Not classified.

Label elements

Signal word Danger

Hazard statement Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Suspected of causing cancer. Causes damage to organs.

Precautionary statement

Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Contaminated work clothing should not be allowed out of the workplace.
Response	If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF exposed or concerned: Get medical advice/attention.
Storage	Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.216.383.4019.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polyamide		63428-84-2	45 - 75
Diglycidyl Resorcinol Ether		101-90-6	20 - 22
PROPRIETARY INGREDIENTS		N/A	7 - 13
Methyl Alcohol		67-56-1	0 - 2
Titanium Oxide (TiO2)		13463-67-7	0 - 1.5

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	If skin irritation occurs: Get medical advice/attention. Wash off with soap and water. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists.
Ingestion	No adverse effects due to ingestion are expected.
Most important symptoms/effects, acute and delayed	May cause an allergic skin reaction. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Keep victim warm. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. Treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
General information	If you feel unwell, seek medical advice (show the label where possible). Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Water spray. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.
General fire hazards	None known.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect and dispose of spillage as indicated in section 13 of the SDS. Flush area with water.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Obtain special instructions before use. Wear appropriate personal protective equipment. Do not eat, drink or smoke when using the product. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in accordance with local/regional/national/international regulation.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Methyl Alcohol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Methyl Alcohol (CAS 67-56-1)	STEL	328 mg/m3
		250 ppm
	TWA	262 mg/m3
		200 ppm
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	10 mg/m3

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Methyl Alcohol (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Total dust.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value
Methyl Alcohol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value
Methyl Alcohol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	10 mg/m3

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	Form
Methyl Alcohol (CAS 67-56-1)	STEL	328 mg/m3	
		250 ppm	
	TWA	262 mg/m3	
		200 ppm	
Titanium Oxide (TiO2) (CAS 13463-67-7)	TWA	10 mg/m3	Total dust.

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Titanium Oxide (TiO2) (CAS 13463-67-7)	15 minute	20 mg/m3
	8 hour	10 mg/m3

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Methyl Alcohol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

Canada - Alberta OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Danger of cutaneous absorption

Canada - Ontario OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Methyl Alcohol (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Methyl Alcohol (CAS 67-56-1) Danger of cutaneous absorption

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Avoid contact with the skin. Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Keep away from food and drink. Wash hands after handling and before eating. Observe any medical surveillance requirements. When using do not smoke. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Film.
Color	White.
Odor	None.
Odor threshold	Not applicable.
pH	Not applicable.
Melting point/freezing point	-144.04 °F (-97.8 °C) estimated / Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	None known.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - lower (%) temperature	Not applicable.
Flammability limit - upper (%)	Not applicable.
Flammability limit - upper (%) temperature	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - lower (%) temperature	Not applicable.
Explosive limit - upper (%)	Not applicable.
Explosive limit - upper (%) temperature	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Neglible.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.

Viscosity Not applicable.

Other information

Density 1.36 g/cm3 estimated

Electrostatic properties

Resistivity (low) temp. Not applicable.

Explosive properties Not explosive.

Oxidizing properties Not oxidizing.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions None.

Conditions to avoid Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition products At thermal decomposition temperatures, carbon monoxide and carbon dioxide. Ammonia. Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause irritation to the respiratory system.

Skin contact Toxic in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

Eye contact Causes serious eye irritation. Direct contact with eyes may cause temporary irritation.

Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics May cause an allergic skin reaction.

Information on toxicological effects

Acute toxicity Harmful in contact with skin.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation. Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Titanium Oxide (TiO2) (CAS 13463-67-7)	Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity Suspected of causing genetic defects.

Carcinogenicity Suspected of causing cancer.

ACGIH Carcinogens

Titanium Oxide (TiO2) (CAS 13463-67-7)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Titanium Oxide (TiO2) (CAS 13463-67-7)	Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Diglycidyl Resorcinol Ether (CAS 101-90-6)	2B Possibly carcinogenic to humans.
Titanium Oxide (TiO2) (CAS 13463-67-7)	2B Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Diglycidyl Resorcinol Ether (CAS 101-90-6)	Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure	Causes damage to organs.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity

Product		Species	Test Results
MEG-150 Epoxy			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	61866.1875 mg/l, 48 hours estimated
Fish	LC50	Fish	62590.7539 mg/l, 96 hours estimated

Components		Species	Test Results
Methyl Alcohol (CAS 67-56-1)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Titanium Oxide (TiO2) (CAS 13463-67-7)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Mummichog (Fundulus heteroclitus)	> 1000 mg/l, 96 hours

Persistence and degradability	Not available.
Bioaccumulative potential	Not available.

Partition coefficient n-octanol / water (log Kow)

Methyl Alcohol	-0.77

Mobility in soil	Not available.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations. Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

15. Regulatory information

Canadian regulations

This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

Methyl Alcohol (CAS 67-56-1)

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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