



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier MEG-150 Epoxy

Other means of identification

SDS number F01

Recommended use of the chemical and restrictions on use

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.

2. Hazards identification

GHS classification

Physical hazards Not classified.

Health hazards Acute toxicity, dermal Category 4
Skin corrosion/irritation Category 2
Sensitization, skin Category 1B
Germ cell mutagenicity Category 2
Carcinogenicity Category 2
Specific target organ toxicity following single exposure Category 1

Environmental hazards Not classified.

GHS label elements, including precautionary statements

Pictograms



Signal word Danger

Hazard statements Suspected of causing cancer. Suspected of causing genetic defects. Causes skin irritation. Harmful in contact with skin. May cause an allergic skin reaction. 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 which do not result in classification None known.

3. Composition/information on ingredients

Substance or mixture	Mixture		
Chemical name	Common name and synonyms	CAS Number	Concentration (%)
Polyamide		63428-84-2	45 - 75
Diglycidyl Resorcinol Ether		101-90-6	20 - 22
proprietary ingredients		N/A	7 - 13
Methanol		67-56-1	0 - 2
Titanium oxide (TiO ₂)		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 (CO ₂).
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.
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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
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.

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

Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order)

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	328 mg/m ³
		250 ppm
	TWA	262 mg/m ³
		200 ppm
Titanium oxide (TiO ₂) (CAS 13463-67-7)	TWA	10 mg/m ³

Control parameters/Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Methanol (CAS 67-56-1)	STEL	250 ppm
		200 ppm
	TWA	10 mg/m ³
Titanium oxide (TiO ₂) (CAS 13463-67-7)	TWA	10 mg/m ³

Biological limit values

ACGIH Biological Exposure Indices

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

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

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1)

Danger of cutaneous absorption

Appropriate engineering control measures

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. When using, do not eat, drink or smoke.

9. Physical and chemical properties

Appearance

Physical state Solid.

Form Film.

Colour White.

Odour None.

Odour threshold Not applicable.

pH Not applicable.

Melting point/freezing point -97.8 °C (-144.04 °F) estimated / Not applicable.

Initial boiling point and boiling range Not applicable.

Flash point Not applicable.

Evaporation rate Not available.

Flammability (solid, gas)	None known.
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.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Negligible.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.
Other data	
Density	1.36 g/cm ³ estimated
Electrostatic properties	
Resistivity (low) temp.	Not applicable.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	Strong oxidising agents.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	None.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition products	At thermal decomposition temperatures, carbon monoxide and carbon dioxide. Ammonia. Nitrogen oxides (NO _x).

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.

Acute toxicity Harmful in contact with skin.

Components	Species	Test Results
Diglycidyl Resorcinol Ether (CAS 101-90-6)		
Acute		
Oral		
LD50	Rat	2.57 g/kg

Symptoms	May cause an allergic skin reaction.
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 sensitisation	
Respiratory sensitisation	Not a respiratory sensitizer.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Suspected of causing genetic defects.
Carcinogenicity	Suspected of causing cancer.
IARC Monographs. Overall Evaluation of Carcinogenicity	
Diglycidyl Resorcinol Ether (CAS 101-90-6)	2B Possibly carcinogenic to humans.
Titanium oxide (TiO ₂) (CAS 13463-67-7)	2B Possibly carcinogenic to humans.
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			
<i>Acute</i>			
Crustacea	EC50	Daphnia	61866.1875 mg/l, 48 hours estimated
Fish	LC50	Fish	62590.7539 mg/l, 96 hours estimated
Components	Species		Test Results
Methanol (CAS 67-56-1)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Titanium oxide (TiO ₂) (CAS 13463-67-7)			
Aquatic			
<i>Acute</i>			
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.

Octanol/water partition coefficient log Kow

Methanol -0.77

Mobility in soil Not available.

Other adverse effects Not available.

13. Disposal considerations

Disposal methods/information 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.

Special precautions Dispose in accordance with all applicable regulations.

14. Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

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**Safety, health and environmental regulations specific for the product in question****Prior Informed Consent (PIC) Substances (Environment Protection and Management Act, 2nd Schedule, Part 1, Jul. 1, 2013)**

Not regulated.

Chemical Weapons Prohibition (Act)

Not applicable.

Environmental Protection and Management (Hazardous Substances) Regulations

Not applicable.

Environmental Public Health Act

Not applicable.

Misuse of Drugs Act**Controlled Narcotic Drugs (Misuse of Drugs Act, First Schedule, Part I, II & III, as amended)**

Not regulated.

Drug Precursors (Misuse of Drugs Act, Third Schedule, Parts I & II, as amended)

Not regulated.

Controlled Specified Drugs (Misuse of Drugs Act, Fourth Schedule, as amended)

Not regulated.

Temporarily Listed Drugs (Misuse of Drugs Act, Fifth Schedule, as amended)

Not regulated.

International regulations**Montreal Protocol**

Not applicable.

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto 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

References	Not available.
Issued by	Not available.
Prepared by	Not available.
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