

GHS Safety Data Sheet

E-5411

Issue Date 2025.01.01 / SDS No. TFCEN20251103

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Details

Product name : E-5411
Other name : Cationic epoxy black paste E-5411
Recommended use of the chemical and restrictions on use : Only apply for electro-coating of metals or electric conductive work-pieces.

Manufacturer or Supplier's Details

Name of manufacturer : Tatung Fine Chemicals Corporation
Address : 247-1, 16 Ling, Caota, Guanyin Dist., Taoyuan City, Taiwan, R.O.C.
Telephone / FAX No. : +886-3-483-0321 / +886-3-483-8381
Emergency telephone No. : +886-3-483-0321 # 237

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity, oral : Category 4, H302
Skin corrosion / irritation : Category 2, H315
Serious eye damage / eye irritation : Category 2A, H319

GHS Label Elements

Hazard symbols :



Signal word : **WARNING !**
Hazard statements H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.

Precautionary Statements

Prevention P264 : Wash thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P280 : Wear protective gloves / protective clothing / eye protection / face protection.
Response P301 + P312 : IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.

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P302 + P352 : IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 : Rinse mouth.

P332 + P313 : If skin irritation occurs: Get medical advice / attention.

P337 + P313 : If eye irritation persists: Get medical advice / attention.

P362 + P364 : Take off contaminated clothing and wash before reuse.

Storage : None.

Disposal P501 : Dispose of contents / container to appropriate waste site or reclaimer in accordance with local or national regulations.

Other Hazards : None.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Mixture:

Components	Percentage (%)	CAS No.
Epoxy resin	12.0 ~ 18.0	25068-38-6
Ethylene glycol monobutyl ether	10.0 ~ 15.0	111-76-2
Carbon black	5.0 ~ 8.0	1333-86-4
Kaolinite	18.0 ~ 22.0	1332-58-7
Dibutyl tin oxide	0.5 ~ 1.0	818-08-6
Water	40.0 ~ 46.0	7732-18-5

4. FIRST AID MEASURES

First Aid Measures for Different Ways of Exposure

After inhalation : Move person to fresh air; if effects occur, consult a physician.

After skin contact : Wash off with plenty of water. Suitable emergency safety shower facility should be available in work area.

After eye contact : Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

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After ingestion	: Do not induce vomiting. Seek medical attention immediately.
<u>The Most Important Symptom and Harmful Effect</u>	: Aside from the information found under Description of first aid measures (above) and indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology information.
<u>Protection for First Aid Personnel</u>	: None.
<u>Advice to Doctor</u>	: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

<u>Suitable Extinguishing Media</u>	: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam fire extinguishers.
<u>Special Risks</u>	: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and / or irritating. Combustion products may include and are not limited to: Carbon monoxide, Carbon dioxide. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
<u>Special Procedure</u>	: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Move container from fire area if this is possible without hazard.
<u>Protective Equipment</u>	: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

<u>Person-related Safety Precautions</u>	: Isolate area. Keep unnecessary and unprotected personnel from entering the area. No smoking in area.
<u>Measures for Environment Protection</u>	: Prevent from entering into soil, ditches, sewers, waterways and / or groundwater.
<u>Measures for Cleaning</u>	

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- Small spills : Absorb with materials such as: Non-combustible material. Clay. Zorb-all®.
- Large spills : Contain spilled material if possible. Dike area to contain spill. Collect in suitable and properly labeled containers.

7. HANDLING AND STORAGE

Precautions for Safe Handling : Keep away from heat, sparks and flame. Do not swallow. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Use with adequate ventilation.

Storage : Store in cool place, avoid from direct sunlight, rain and rapid changes of temperature.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters

Components	ACGIH TWA	TW OEL STEL	CEILING	ACGIH BEIs
Ethylene glycol monobutyl ether	20ppm	37.5ppm	None	End of shift. 200mg/g Creatinine.
Dibutyl tin oxide	0.1mg/m ³ as tin Skin	0.3mg/m ³ as tin Skin	None	None

Engineering Control : Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Personal Protective Equipment

- Respiratory protection : For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.
- Eye protection : Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.
- Hand protection : Use gloves chemically resistant to this material. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile / butadiene rubber ("NBR"). Polyvinyl chloride ("PVC").
- Skin / body protection : Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

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Hygiene Measures : No smoking and drinking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Black liquid.
Odor	: Mild pungent.
Odor threshold	: None.
pH	: 7.0~10.0
Melting point / range	: Not applicable.
Boiling point / range	: > 100°C
Flammability (solid, gas)	: Not applicable.
Decomposition temperature	: None.
Flash point	: > 93°C (Closed cup)
Self-inflammability	: Product is not self-igniting.
Upper / lower explosion limits	: None.
Vapor pressure	: None.
Vapor density (air=1)	: > 1
Density (water=1)	: 1.10~1.30
Solubility (water)	: Insoluble.
Octanol-water partition coefficient (log Kow)	: None.
Evaporation rate (nBac=1)	: None.

10. STABILITY AND REACTIVITY

Stability : Thermally stable at typical use temperatures.

Possibility of Hazardous reaction : Polymerization will not occur.

Conditions to Avoid : Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials : Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products : Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

11. TOXICOLOGICAL INFORMATION

Route of Exposure : Inhalation, skin, eye, ingestion.

Symptoms

Inhalation : Excessive exposure may cause irritation to upper respiratory tract(nose and throat). In humans symptoms may include: Headache.

Skin : Brief contact may cause slight skin irritation with local redness. Repeated exposure may cause irritation, even a burn. May cause more severe response on covered skin (under clothing, gloves).

Eye : May cause severe eye irritation. May cause moderate corneal injury. Vapor may cause eye irritation experienced as mild discomfort and redness.

Ingestion : Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Acute Toxicity

Components	Oral (LD ₅₀)	Dermal (LD ₅₀)	Inhalation (LC ₅₀)
Ethylene glycol monobutyl ether	1300mg/kg Rat	> 2000mg/kg Guinea pig	486ppm Rat
Dibutyl tin oxide	44.9mg/kg Rat	None	None

Chronic Toxicity or Long Term Toxicity : None.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components	Fish (LC ₅₀)	Aquatic invertebrates (EC ₅₀)	Algae (EC ₅₀)	Bacteria (IC ₅₀)
Ethylene glycol monobutyl ether	1464mg/l-96h Rainbow trout	1550mg/l-48h Water flea	911mg/l-72h Green algae	> 1000mg/l

Persistence and Degradability : Material is readily biodegradable.

Bioaccumulative Potential : Bioconcentration potential is low.

Mobility in Soil : Potential for mobility in soil is high.

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Special Effect : None.

13. DISPOSAL CONSIDERATIONS

Waste Disposal of Substance : Dispose of in accordance with national, state and local regulations.

Contaminated Packaging : Empty containers should be recycled or disposed through an approved waste management facility or licensed contractor.

14. TRANSPORT INFORMATION

Land Transport (ADR / DOT / RID)

UN number : Not classified as a dangerous good under transport regulations.
Proper shipping name : Not classified as a dangerous good under transport regulations.
Class : Not classified as a dangerous good under transport regulations.
Packing group : Not classified as a dangerous good under transport regulations.

Sea Transport (IMDG)

UN number : Not classified as a dangerous good under transport regulations.
Proper shipping name : Not classified as a dangerous good under transport regulations.
Class : Not classified as a dangerous good under transport regulations.
Packing group : Not classified as a dangerous good under transport regulations.
Marine Pollutant : No.

Air Transport (IATA / ICAO)

UN number : Not classified as a dangerous good under transport regulations.
Proper shipping name : Not classified as a dangerous good under transport regulations.
Class : Not classified as a dangerous good under transport regulations.
Packing group : Not classified as a dangerous good under transport regulations.

15. REGULATORY INFORMATION

TSCA : United States Toxic Substances Control Act Section 8(b) Inventory.
EINECS / ELINCSL : European Inventory of Existing Chemical Substances / European List of Notified Chemical Substances.
IECSC : China Inventory of Existing Chemical Substances.
TCSI : Taiwan Chemical Substance Inventory.

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16. OTHER INFORMATION

- References** : Globally Harmonized System of Classification and Labelling of Chemicals. (GHS)
Recommendations on the Transport Of Dangerous Goods - Model Regulations. (TDG)
GHS Safety Data Sheet of Butyl CELLOSOLVE™ Solvent by DOW CHEMICAL TAIWAN LIMITED.
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247-1, 16 Ling, Caota, Guanyin Dist., Taoyuan City, Taiwan, R.O.C.
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