Material Safety Data Sheet

Section 1. Identification of the chemical and supplier

Product Name: Metallographic layering agent **Synonyms:** Nitric acid alcohol corrosion solution
commodity code: SEP 46
(M)SDS Number: 3405EN
Relevant identified use(s): Laboratory metallographic analysis.
Emergency telephone number: 13814829868（24h）
Name of the company: Trojan (Suzhou) Material Technology Co., Ltd
Address of the company: Building 26, No. 228 Gongtang Road Luzhi Town,Wuzhong District, Suzhou, China.
Post code: 215000 Fax number: 0512-67508229
Telephone number: 0512-67580617
E-mail address: sales@trojanchina.com

Section 2. Hazards identification

Hazard classification according to GHS:

Flammable Liquid	Category 2	H225
Skin Corrosion	Category 2	H314

Hazard pictograms**:**



Signal word: Warning

Hazard statements:
H225 Combustible liquid.
H314 May cause irritation to the skin.
Precautionary statements:
1. **Prevention:**
-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
-Do not eat, drink or smoke when using this product.
-Wear protective gloves/protective clothing/eye protection/face protection.
- Store in a well-ventilated place. Keep container tightly closed.
2. **Response:**
- In case of fire: use suitable extinguishing equipment to extinguish the fire.
- If swallowing: rinse mouth, prompt vomiting, seek medical advice as soon as possible.
- In case of contact with eyes: open eyelids while standing, flush contaminated eyes with gentle water.
-If skin contacting: rinse clean with water.
3. **Storage:**

- Store in a well-ventilated place. Keep container tightly closed.

4. **Disposal:**

- Collect centrally and dispose of contents/containers in accordance with applicable local/regional/national/international regulations.

Section 3. Composition/information on ingredients

Name： Nitric acid alcohol corrosion solution

Substances

Chemical name	EC No.	CAS No.	Weight-%
Ethanol	200-578-6	64-17-5	90-98
Nitric acid	231-714-2	7697-37-2	2-10

Section 4. First-aid measures

General advice: Immediate medical attention is required. Show this material safety data sheet (MSDS) to the doctor in attendance .

Description of necessary first-aid measures

If inhaled: This can cause serious lung damage if inhaled. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use isolation items during mouth-to-mouth resuscitation. If breathing is difficult, oxygen is given (by trained personnel).Seek medical attention immediately. Delayed pulmonary edema may occur.

Following skin contact: Wash immediately with soap and plenty of water, and remove contaminated clothing and shoes. See a doctor if you develop eczema or other skin complaints.

Following eye contact: Immediately rinse with plenty of water for at least 15 minutes, including under eyelids. Keep your eyes open while rinsing. Don't rub the affected area. If you wear contact lenses and can easily remove them, remove contact lenses. Continue rinsing.

Following ingestion: Swallowing is an inhalation hazard that can enter the lungs and cause damage. Do not induce vomiting. If spontaneous vomiting occurs, lower your head below your hips to prevent inhaling the vomit. Rinse your mouth with water and drink plenty of it. Do not give anything through the mouth to an unconscious patient. Seek medical attention immediately.

Most important symptoms/effects, acute and delayed: Difficulty in breathing, coughing and/or wheezing and dizziness.

Advice for protecting the rescuer: Remove all sources of fire. Ensure that health care personnel are aware of the materials involved, take their own protective measures and prevent the spread of contamination, wear personal protective clothing and avoid direct contact with skin. Use isolation items during mouth-to-mouth resuscitation and personal protective equipment as required.

Special note to the doctor: Because of the risk of inhalation, vomiting or gastric lavage should not be taken unless the reason for the risk is the presence of another toxic substance.

Section 5. Firefighting measures

Suitable extinguishing media: Soluble resistance to foam, dry powder, carbon dioxide, sand.
Specific hazards arising from the substance or mixture Flammable, its steam and air can form explosive mixture, in case of open fire, high thermal energy caused by combustion explosion. To react chemically or cause combustion in contact with an oxidizer. In a fire, a heated container is a risk of explosion. Its steam is heavier than air, can be diffused to a considerable distance in a lower place, in case of fire will catch fire and burn back.
Special fire extinguishing procedure: Move containers away from the fire and into the open as much as possible. Spray water to keep the fire container cool until the end of the fire fighting.
Special protective actions for fire-fighters: General fire protection equipment.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: General fire protection equipment quickly evacuate the personnel from the contaminated leakage area to the safety area, and carry out isolation, and strictly restrict access. Cut off the fire. Emergency personnel are advised to wear self-contained positive pressure breathing apparatus and anti-static overalls.
Environmental precautions: Cut off the source of leakage as much as possible. Prevent flow into sewer, flood drain and other restricted space. Small leakage: adsorption or absorption with sand or other non-combustible materials. It can also be washed with plenty of water and diluted into the wastewater system. Large leakage: build embankment or dig a pit to receive. Cover with foam to reduce vapor hazards.
Methods and materials for containment and cleaning up Transfer to tank truck or special collector with explosion-proof pump, recycle or transport to waste treatment place for disposal.

Section 7. Handling and storage

Precautions for handling Store in a cool, ventilated warehouse. Keep away from fire and heat. The storage temperature should not exceed 30℃.Keep container sealed.
Precautions for storage Should be separated from oxidizing agents, acids, alkali metals, amines, etc., avoid mixed storage by all means. Explosion-proof lighting and ventilation facilities are adopted. Prohibit the use of mechanical equipment and tools that can easily generate sparks. The storage area should be equipped with leakage emergency treatment equipment and appropriate storage materials. Ventilated, normal temperature and humid indoor environment.
Operation cautions: N

Section 8. Exposure controls/personal protection

Engineering control: N.A.

Occupational Exposure limit values: This product is supplied free of any hazardous substances that have occupational exposure limits set by a region-specific regulatory authority.
Control parameters - 8 hours daily average admissible concentration/short time average admissible concentration/maximum admissible concentration：N.A. - biological indicator：N.A.
Personal protection equipment - Breath protection: No special requirements. -Hand protection: Avoid direct contact and wear protective gloves. -Eye protection: Tightly sealed goggles. If splashing is a possibility, wear safety glasses with a side guard. -Skin and body protection**:** No special requirements.
Hygiene measures: Air pollution control requirements.

Section 9. Physical and chemical properties

Appearance: Liquid, with wine aroma	**Odor**: Pungent sour taste
Odor threshold: N.A.	**Melting point/freezing point :** -114℃
pH:/	**Initial boiling point and boiling range**:/
Ignition point: 75 ℃	**Flashpoint:** 60℃
Vapor pressure: 5.33(19℃)	**Vapor density :**N.A.
Relative density:1.59	**Solubility:** Mixed with water, can be mixed in ether, chloroform, glycerin and other organic solvents

Section 10. Stability and reactivity

Stability and reactivity：Inflammable
Possible hazardous reactions under special circumstances: May cause irritation by inhalation or contact.
Conditions to avoid: Heat away from fire and sun exposure.
Hazardous decomposition products: Strong oxidant, acid, anhydride, alkali metal, amine.

Section 11. Toxicological information

Exposure pathways: eye/ ingestion
Symptom: **Inhalation**: Specific test data for this substance or mixture are not available. Inhalation can cause severe lung damage and can lead to pulmonary edema, which can be fatal. May cause respiratory irritation. **Eye contact:** Specific test data for this substance or mixture are not available. May cause irritation. **Skin contact:** Drying-out effect resulting in rough and chapped skin. **Ingestion**: Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways.

Information on toxicological effects:	
Symptoms: Difficulty in breathing, coughing and/or wheezing and dizziness.	
Chronic or chronic toxicity:	
Delayed and immediate effects as well as chronic effects from short and long-term exposure:	
Skin corrosion/irritation	No information available
Severe eye injury/eye irritation	No information available
Respiratory or skin sensitization	No information available
Germ cell mutagenesis	No information available
Carcinogenicity	No information available
Reproductive toxicity	No information available
STOT -single exposure	No information available
STOT -repeated exposure	No information available
Aspiration Hazard	Swallowing and entry into the respiratory tract can be fatal

Section 12. Ecological information

Ecotoxicity: It is recommended to dispose of it by incineration.
Persistence and Degradability: /
Bioaccumulation: No information available.
Mobility in soil: No information available.
Other adverse effects: No information available.

Section 13. Disposal considerations

Waste treatment methods: It is recommended to dispose of it by incineration.

Section 14. Transport information

Special Name for Transport: Container bottles are not specified for <110 Gal.

International Transport Regulations:
UN Name: 2031
Transport hazard class： 8
Packing group: II
Marine pollutant: No
Special transportation method and matters needing attention: Small opening steel drum; Small opening aluminum bucket; Common wooden case outside ampoule bottle; Threaded glass bottles, glass bottles with iron caps, plastic bottles or common wooden cases outside metal buckets (cans).

Others:

IMDG/IMO	
UN number	2031
Proper Shipping Name	NITRIC ACID
Hazard Class	8

Packing Group	II
Marine Pollutant	N
Environment Hazards	N.A.
Special provisions	N.A.
Bulk transportation basis MARPOL 73/78	N.A.
RID	
UN number	2031
Proper Shipping Name	NITRIC ACID
Hazard Class	8
Packing Group	II
Environment Hazards	N
Special provisions	N.A.
ADR	
UN number	2031
Proper Shipping Name	NITRIC ACID
Hazard Class	8
Packing Group	II
Environment Hazards	N
Special provisions	N.A.
IATA	
UN number	2031
Proper Shipping Name	NITRIC ACID
Hazard Class	8
Packing Group	II
Environment Hazards	N
Special provisions	N.A.

Section 15. Regulatory information

Applicable regulations: China

Section 16. Others

Reference		
Tabulation unit	Name: Trojan (Suzhou) Material Technology Co., Ltd	
	Address/Telephone: Building 26, No. 228 Gongtang Road Luzhi Town,Wuzhong District, Suzhou, China./0512 67580617	
Lister	Position: Manager	Name:Zhang Huajian
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