



# Safety Data Sheet Metal Etching Pen

SDS Revision Date: 09/27/2023

## 1. Identification

### 1.1. Product identifier

**Product Identity**

Metal Etching Pen

**Alternate Names**

Metal Etching Pen

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Intended use**

See Technical Data Sheet.

**Application Method**

For Corrosive materials.

### 1.3. Details of the supplier of the safety data sheet

**Company Name**

Flexbar Machine Corporation  
250 Gibbs Road  
Islandia, NY 11749 USA

Phone 631-582-8440

**Emergency**

Chemtrec: 1-800-424-9300 (Outside U.S. 1-703-527-3887)  
(610) 497-9000 During business hours, 8:00am-4:00pm EST

## 2. Hazard(s) identification

### 2.1. Classification of the substance or mixture

Acute Tox. 5;H303

May be harmful if swallowed. (Not adopted by US OSHA)

Acute Tox. 4;H332

Harmful if inhaled.

Skin Corr. 1A;H314

Causes severe skin burns and eye damage.

Eye Dam. 1;H318

Causes serious eye damage.

STOT SE 3;H335

May cause respiratory irritation.

### 2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



**Danger**

H303 May be harmful if swallowed.

H314 Causes severe skin burns and eye damage.

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H318 Causes serious eye damage.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

### [Prevention]:

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves / eye protection / face protection.

### [Response]:

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+361+353 IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower.

P304+312 IF INHALED: Call a POISON CENTER or doctor / physician if you feel unwell.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P310 Immediately call a POISON CENTER or doctor / physician.

P340 Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P363 Wash contaminated clothing before reuse.

### [Storage]:

P403+233 Store in a well ventilated place. Keep container tightly closed.

P405 Store locked up.

### [Disposal]:

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

## 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Hydrochloric acid CAS Number: 0007647-01-0	25 - 50	Skin Corr. 1B;H314 STOT SE 3;H335	[1][2]
Sulfuric acid CAS Number: 0007664-93-9	5 - 10	Skin Corr. 1A;H314 (> 15%)	[1][2]
Nitric acid CAS Number: 0007697-37-2	5 - 10	Ox. Liq. 3;H272 Skin Corr. 1A;H314	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the phrases are shown in Section 16.

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### 4. First aid measures

#### 4.1. Description of first aid measures

<b>General</b>	Wash with liberal amount of water or boric acid. In case of skin irritation, eye irritation, see a doctor.
<b>Inhalation</b>	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
<b>Eyes</b>	Irrigate copiously with clean fresh water for at least 15 minutes, holding the eyelids apart and seek medical attention.
<b>Skin</b>	Immediately flush the area with large amounts of water for at least 15 minutes, while removing contaminated clothing. Launder clothing before re-use. Call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth and slowly drink several glasses of water. Call a physician. Do NOT give anything by mouth to an unconscious or convulsing person.

#### 4.2. Most important symptoms and effects, both acute and delayed

<b>Overview</b>	None but watch unexpected leak. See section 2 for further details.
<b>Inhalation</b>	Harmful if inhaled. May cause respiratory irritation.
<b>Eyes</b>	Causes serious eye damage.
<b>Skin</b>	Causes severe skin burns and eye damage.
<b>Ingestion</b>	May be harmful if swallowed.

### 5. Fire-fighting measures

#### 5.1. Extinguishing media

Non combustible.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: High temperatures produce toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes.

Avoid breathing dust / fume / gas / mist / vapors / spray.

#### 5.3. Advice for fire-fighters

Non combustible.

Muriatic acid does not decompose at temperatures below 1500°C. It is non-flammable; however, flammable and potentially explosive hydrogen gas is generated from reaction with most metals.

### 6. Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

#### 6.2. Environmental precautions

Do not allow spills to enter drains or waterways.

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Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.3. Methods and material for containment and cleaning up

Wipe off material with cloth or wash off with water.

Contain, dilute cautiously with water, and neutralize with soda ash or lime.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Keep out of children's reach

See section 2 for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Storage facilities must be properly designed and diked to contain any spillage.

Keep a cover (lid) closed over the marker and place in the normal room temperature

Incompatible materials: Most metals, alkalis, metallic oxides, amines, esters, carbonates, cyanides, sulfides, and water reactive materials.

See section 2 for further details. - [Storage]:

### 7.3. Specific end use(s)

No data available.

## 8. Exposure controls and personal protection

### 8.1. Control parameters

#### Exposure

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	C 5 ppm (7 mg/m <sup>3</sup> )
		ACGIH	Ceiling: 2 ppm Revised 2003,
		NIOSH	C 5 ppm (7 mg/m <sup>3</sup> )
		Supplier	No Established Limit
0007664-93-9	Sulfuric acid	OSHA	TWA 1 mg/m <sup>3</sup>
		ACGIH	TWA: 0.2 mg/m <sup>3</sup> A1, 1, Revised 2004,
		NIOSH	TWA 1 mg/m <sup>3</sup>
		Supplier	No Established Limit
0007697-37-2	Nitric acid	OSHA	TWA 2 ppm (5 mg/m <sup>3</sup> )
		ACGIH	TWA: 2 ppm Ceiling: 4 ppm
		NIOSH	TWA 2 ppm (5 mg/m <sup>3</sup> ) ST 4 ppm (10 mg/m <sup>3</sup> )
		Supplier	No Established Limit

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### Carcinogen Data

CAS No.	Ingredient	Source	Value
0007647-01-0	Hydrochloric acid	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;
0007664-93-9	Sulfuric acid	OSHA	Select Carcinogen: No
		NTP	Known: Yes; Suspected: No
		IARC	Group 1: Yes; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007697-37-2	Nitric acid	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;

### 8.2. Exposure controls

<b>Respiratory</b>	Keep distance (around 12 inch) on writing or marking.
<b>Eyes</b>	Wear a full face shield if mixing or pouring this material.
<b>Skin</b>	Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. All parts of the body should be washed after contact. Use neoprene or rubber gloves or PVC.
<b>Engineering Controls</b>	Forced Mechanical Exhaust Recommended
<b>Other Work Practices</b>	Keep the surface of marker dry and wipe off where leaking if any. Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

## 9. Physical and chemical properties

<b>Appearance</b>	light yellow Liquid
<b>Odor</b>	Hydrochloric acid smell.
<b>Odor threshold</b>	Not determined
<b>pH</b>	Not Measured
<b>Melting point / freezing point</b>	Not Measured
<b>Initial boiling point and boiling range</b>	212 F (100 C)
<b>Flash Point</b>	None
<b>Evaporation rate (Ether = 1)</b>	Not Measured
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper/lower flammability or explosive limits</b>	<b>Lower Explosive Limit:</b> Not Measured <b>Upper Explosive Limit:</b> Not Measured
<b>Vapor pressure (Pa)</b>	Not Measured
<b>Vapor Density</b>	Not Measured
<b>Specific Gravity</b>	Not Measured
<b>Solubility in Water</b>	Unlimited mixable.
<b>Partition coefficient n-octanol/water (Log Kow)</b>	Not Measured

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Auto-ignition temperature Not Measured  
Decomposition temperature Not Measured  
Viscosity (cSt) Not Measured

### 9.2. Other information

No other relevant information.

## 10. Stability and reactivity

### 10.1. Reactivity

Hazardous Polymerization will not occur.

### 10.2. Chemical stability

Stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

Reacts with some bases.

### 10.4. Conditions to avoid

Indirect contact with skin

Self-contained breathing apparatus should be used to prevent inhalation of gases. Water fog will be most effective for controlling vapors.

### 10.5. Incompatible materials

Most metals, alkalis, metallic oxides, amines, esters, carbonates, cyanides, sulfides, and water reactive materials.

### 10.6. Hazardous decomposition products

High temperatures produce toxic hydrogen chloride fumes and will react with water or steam to produce heat and toxic and corrosive fumes.

## 11. Toxicological information

### Acute toxicity

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Hydrochloric acid - (7647-01-0)	900.00, Rabbit - Category: 4	5,010.00, Rabbit - Category: NA	781.00, Mouse - Category: NA	No data available	3,124.00, Rat - Category: 4
Sulfuric acid - (7664-93-9)	2,140.00, Rat - Category: 5	No data available	No data available	No data available	No data available
Nitric acid - (7697-37-2)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

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Classification	Category	Hazard Description
Acute toxicity (oral)	5	May be harmful if swallowed. (Not adopted by US OSHA)
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	4	Harmful if inhaled.
Skin corrosion/irritation	1A	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable
Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	3	May cause respiratory irritation.
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

## 12. Ecological information

### 12.1. Toxicity

No additional information provided for this product. See Section 3 for chemical specific data.

### Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Hydrochloric acid - (7647-01-0)	282.00, <i>Gambusia affinis</i>	260.00, <i>Crangon crangon</i>	Not Available
Sulfuric acid - (7664-93-9)	42.00, <i>Gambusia affinis</i>	42.50, <i>Pandalus montagui</i>	Not Available
Nitric acid - (7697-37-2)	100.00, <i>Asterias rubens</i>	180.00, <i>Carcinus maenas</i>	Not Available

### 12.2. Persistence and degradability

There is no data available on the preparation itself.

### 12.3. Bioaccumulative potential

Not Measured

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6. Other adverse effects

No data available.

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### 13. Disposal considerations

#### 13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

### 14. Transport information

Not provided

### 15. Regulatory information

<b>Regulatory Overview</b>	The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.
<b>Toxic Substance Control Act (TSCA)</b>	All components of this material are either listed or exempt from listing on the TSCA Inventory.
<b>WHMIS Classification</b>	D2B E
<b>US EPA Tier II Hazards</b>	<b>Fire:</b> No <b>Sudden Release of Pressure:</b> No <b>Reactive:</b> Yes <b>Immediate (Acute):</b> Yes <b>Delayed (Chronic):</b> No

**Note:** Strong inorganic acid mists containing sulfuric acid are listed on the California Proposition 65 Carcinogen List. [Sulfuric acid, in and of itself, is not listed under Proposition 65. However, if one has sulfuric acid, which through its intended use generates an acid mist that in turn contains sulfuric acid that would meet the listing. The term "strong" does not refer to the concentration of the acid, but rather the strength of the acid. The basis for the listing of strong inorganic acid mists containing sulfuric acid was the formal identification by the National Toxicology Program (NTP), in its Ninth Report on Carcinogens, that this chemical mixture is "known to be a human carcinogen." (Public notice available at [http://www.oehha.ca.gov/prop65/CRNR\\_notices/admin\\_listing/intent\\_to\\_list/noil19b4.html](http://www.oehha.ca.gov/prop65/CRNR_notices/admin_listing/intent_to_list/noil19b4.html).) ]

#### EPCRA 311/312 Chemicals and RQs (lbs):

Hydrochloric acid ( 5,000.00)  
Nitric acid ( 1,000.00)  
Sulfuric acid ( 1,000.00)

#### EPCRA 302 Extremely Hazardous:

Hydrochloric acid  
Nitric acid  
Sulfuric acid

#### EPCRA 313 Toxic Chemicals:

Hydrochloric acid  
Nitric acid  
Sulfuric acid



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**Proposition 65 - Carcinogens (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Developmental Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

**New Jersey RTK Substances (>1%):**

Hydrochloric acid

Nitric acid

Sulfuric acid

**Pennsylvania RTK Substances (>1%):**

Hydrochloric acid

Nitric acid

Sulfuric acid

### 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H272 May intensify fire; oxidizer.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

The information contained herein is furnished without warranty of any kind. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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