1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

- **Product name**: TB-21ND WELD CLEANING FLUID FOR STAINLESS STEEL
- **Synonyms**: TB21ND WELD CLEANING FLUID  •  WELD CLEANING FLUID

1.2 Uses and uses advised against

- **Uses**: TIG BRUSH WELD CLEANING SOLUTION FOR STAINLESS STEEL

1.3 Details of the supplier of the product

- **Supplier name**: ENSITECH INC
- **Address**: 340 Marshall Avenue, Bldg#104, Aurora, Illinois, 60506, UNITED STATES
- **Telephone**: +1 630 405 6440
- **Fax**: +1 630 423 5979
- **Email**: info@tigbrush.com
- **Website**: www.tigbrush.com

1.4 Emergency telephone numbers

- **Emergency**: +1 352-323-3500

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS UNDER OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200

**Physical Hazards**
Not classified as a Physical Hazard

**Health Hazards**
Skin Corrosion/Irritation: Category 2
Serious Eye Damage / Eye Irritation: Category 2A

**Environmental Hazards**
Not classified as an Environmental Hazard

2.2 GHS Label elements

- **Signal word**: WARNING

- **Pictograms**

- **Hazard statements**
  - H315: Causes skin irritation.
  - H319: Causes serious eye irritation.

- **Prevention statements**
  - P264: Wash thoroughly after handling.
  - P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response statements
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.
P321 Specific treatment is advised - see first aid instructions.
P362 Take off contaminated clothing and wash before re-use.

Storage statements
None allocated.

Disposal statements
None allocated.

2.3 Other hazards
No information provided.

NFPA

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOSPHORIC ACID</td>
<td>7664-38-2</td>
<td>231-633-2</td>
<td>23 to 24%</td>
</tr>
<tr>
<td>NON HAZARDOUS INGREDIENTS</td>
<td>Not Available</td>
<td>Not Available</td>
<td>Remainder</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

Inhalation If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

Ingestion For advice, contact the Poison Control Centre at 1-800-222-1222 or a doctor (at once). If swallowed, do not induce vomiting.

First aid facilities Eye wash facilities should be available.

4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes and skin.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (phosphorus oxides) when heated to decomposition. Contact with most metals may evolve flammable hydrogen gas.

5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.
5.4 Hazchem code
None allocated.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions
Prevent product from entering drains and waterways.

6.3 Methods of cleaning up
Contain spillage, then cover / absorb spill with sodium bicarbonate or 50-50 mixture of sodium carbonate and calcium hydroxide. Collect for complete neutralisation and appropriate disposal.

6.4 Reference to other sections
See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. This solution should not be used in a spraying application.

7.2 Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

7.3 Specific end uses
No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Exposure standards

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Reference</th>
<th>TWA ppm</th>
<th>TWA mg/m³</th>
<th>STEL ppm</th>
<th>STEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid</td>
<td>ACGIH TLV [USA]</td>
<td>--</td>
<td>1</td>
<td>--</td>
<td>3</td>
</tr>
</tbody>
</table>

Biological limits
No biological limit values have been entered for this product.

8.2 Exposure controls

8.2.1 Engineering controls
Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

8.2.2 PPE

Eye / Face: Wear splash-proof goggles.
Hand: Wear PVC or rubber gloves.
Body: Wear coveralls.
Respiratory: Where an inhalation risk exists, wear a Type B (Inorganic gases and vapours) respirator.
9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>ORANGE COLOURED LIQUID</td>
</tr>
<tr>
<td>Odour</td>
<td>SWEET ODOUR</td>
</tr>
<tr>
<td>Flammability</td>
<td>NON FLAMMABLE</td>
</tr>
<tr>
<td>Flash point</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100°C (Approximately)</td>
</tr>
<tr>
<td>Melting point</td>
<td>&lt; 0°C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>AS FOR WATER</td>
</tr>
<tr>
<td>pH</td>
<td>2.01</td>
</tr>
<tr>
<td>Vapour density</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1 (Approximately)</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>SOLUBLE</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>18 mm Hg @ 20°C</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>NOT RELEVANT</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Viscosity</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>% Volatiles</td>
<td>&gt; 60% (Water)</td>
</tr>
</tbody>
</table>

9.2 Other information

10. STABILITY AND REACTIVITY

10.1 Reactivity
May be corrosive to metals.

10.2 Chemical stability
Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions
Polymerization is not expected to occur.

10.4 Conditions to avoid
Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials
Incompatible with oxidising agents (e.g. hypochlorites), alkalis (e.g. sodium hydroxide) and metals.

10.6 Hazardous decomposition products
May evolve toxic gases (phosphorus oxides) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Based on available data, the classification criteria are not met.

Information available for the ingredients:

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOSPHORIC ACID</td>
<td>1530 mg/kg (rat)</td>
<td>2740 mg/kg (rabbit)</td>
<td>3846 mg/m³ (rat)</td>
</tr>
</tbody>
</table>

Skin
Irritating to the skin. Contact may result in irritation, redness, pain, rash, dermatitis and possible skin burns.

Eye
Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.

Sensitisation
Insufficient data for classification as a skin or respiratory sensitisier.

Mutagenicity
Insufficient data available to classify as a mutagen.
12. ECOLOGICAL INFORMATION

12.1 Toxicity
Phosphoric acid may be hazardous to aquatic life at high concentrations.

12.2 Persistence and degradability
While acidity may be reduced by natural water minerals, the phosphate may persist indefinitely.

12.3 Bioaccumulative potential
Not expected to bioaccumulate.

12.4 Mobility in soil
When spilled onto soil, it will permeate downward, and may dissolve some of the soil matter, especially carbonate-based materials. Some acid will be neutralised, however significant amounts will remain for transport to groundwater.

12.5 Results of PBT and vPvB assessment
Not classified as PBT or vPvB.

12.6 Other adverse effects
Phosphoric acid is hazardous to aquatic life at high concentrations. While acidity may be reduced by natural water minerals, the phosphate may persist indefinitely. When spilled onto soil, it will permeate downward, and may dissolve some of the soil matter, especially carbonate-based materials. Some acid will be neutralised, however significant amounts will remain for transport to groundwater.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Waste disposal
For small amounts (as determined by risk assessment or similar): Wearing the protective equipment detailed above, neutralise to pH 6-8 by SLOW addition to a saturated sodium bicarbonate solution or similar basic solution. Dilute with excess water and flush to drain. Waste disposal should only be undertaken in a well ventilated area. For larger amounts: Dispose in accordance with relevant local legislation.

Legislation
Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF DOT, IMDG OR IATA

<table>
<thead>
<tr>
<th></th>
<th>LAND TRANSPORT (DOT)</th>
<th>SEA TRANSPORT (IMDG / IMO)</th>
<th>AIR TRANSPORT (IATA / ICAO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1 UN Number</td>
<td>None allocated.</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
<tr>
<td>14.2 Proper</td>
<td>None allocated.</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
<tr>
<td>Shipping Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.3 Transport</td>
<td>None allocated.</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
<tr>
<td>hazard class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.4 Packing</td>
<td>None allocated.</td>
<td>None allocated.</td>
<td>None allocated.</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.5 Environmental hazards
No information provided.

14.6 Special precautions for user

15. REGULATORY INFORMATION
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US EPCRA and CAA Regulatory Information

The following components are subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112(r) of the Clean Air Act (CAA):

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>Sara 302 (TPQ)</th>
<th>Sara 304 (RQ)</th>
<th>CERCLA (RQ)</th>
<th>Sara 313</th>
<th>RCRA Code</th>
<th>CAA (TQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHOSPHORIC ACID</td>
<td>7664-38-2</td>
<td></td>
<td></td>
<td>5000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Refer to Section 16 - Summary of Codes

Carcinogenicity

The following carcinogenic status applies:

None of the components of this product are listed on the NTP/IARC/OSHA lists.

Inventory listings

UNITED STATES: TSCA (US Toxic Substances Control Act)

All components are listed on the TSCA inventory, or are exempt.

16. OTHER INFORMATION

16.1 Additional information

ACIDS: When mixing acids with water (diluting), caution must be taken as heat will be generated which causes violent spattering. Always add a small volume of acid to a large volume of water, NEVER the reverse.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.
16.2 Abbreviations

ACGIH  American Conference of Governmental Industrial Hygienists
CAA     Clean Air Act
CAS #   Chemical Abstract Service number - used to uniquely identify chemical compounds
CERCLA  Comprehensive Environmental Response, Compensation, and Liability Act
CNS     Central Nervous System
EC No.  EC No - European Community Number
EMS     Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
EPCRA   Emergency Planning and Community Right-to-Know Act
GHS     Globally Harmonized System
IARC    International Agency for Research on Cancer
LC50    Lethal Concentration, 50% / Median Lethal Concentration
LD50    Lethal Dose, 50% / Median Lethal Dose
mg/m³   Milligrams per Cubic Metre
NTP     U.S. National Toxicology Program
OEL     Occupational Exposure Limit
OSHA    Occupational Safety and Health Administration
PEL     Permissible Exposure Limit
pH      relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm     Parts Per Million
RCRA    Resource Conservation and Recovery Act
RQ      Reportable Quantity measured in pounds (304, CERCLA)
SARA    Superfund Amendments and Reauthorization Act
STEL    Short-Term Exposure Limit
STOT-RE Specific target organ toxicity (repeated exposure)
STOT-SE Specific target organ toxicity (single exposure)
TLV     Threshold Limit Value
TPQ     Threshold Planning Quantity measured in pounds (302)
TQ      Threshold Quantity measured in pounds (CAA)
TWA     Time Weighted Average

16.3 Summary Of Codes

RQ      Reportable Quantity measured in pounds (304, CERCLA)
TQ      Threshold Quantity measured in pounds (CAA)
TPQ     Threshold Planning Quantity measured in pounds (302)
        Reporting threshold has changed since November 1998.
+       Member of PAC category.
#       Member of diisocyanate category.
X       Indicates that this is a second name for a chemical already included on this consolidated list. May also indicate that the
        same chemical with the same CAS number appears on another list with a different chemical name.
*       RCRA carbamate waste: statutory one-pound RQ applies until RQs are adjusted.
**      This chemical was identified from a Premanufacture Review Notice (PMN) submitted to EPA. The submitter has
        claimed certain information on the submission to be confidential, including specific chemical identity.
***     Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance.
        See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting
        under Section 313.
c       Although not listed by name and CAS number, this chemical is reportable under one or more of the EPCRA section 313
        chemical categories.
s       Indicates that this chemical is currently under an administrative stay of the EPCRA section 313 reporting requirements,
        therefore, no Toxics Release Inventory reports are required until the stay is removed.
!       Member of the dioxin and dioxin-like compounds category.

16.4 Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their
Safety Data Sheet (‘SDS’).

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or
obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling
precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly
from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to
accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential
loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

[ End of SDS ]