Technical Datasheet

WARTON METALS LIMITED

Total Clean™

Semi Aqueous Total Submersion Cleaner

Product:

Total Clean 440 Semi Aqueous Total Submersion Cleaner

Manufactured By:

Warton Metals Ltd
Grove Mill, Commerce Street
Haslingden, Lancashire
BB4 5JT ENGLAND

Tel: + 44 (0)1706 218888
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Description

Total Clean 440 is a blend of CFC Free oxygenated solvents. Total Clean 440 is completely miscible in water and is biodegradable.

Total Clean 440 removes RA, RMA, Synthetic Resin and Rosin Free flux types from printed circuit boards. Total Clean 440 has a low surface tension, ensuring efficient penetration and cleaning under SMT Components.

Total Clean has been specifically designed with a higher saturation point to allow more cleaning before exhaustion. It works at low operating temperatures and is a clear, colourless liquid with only a mild solvent odour.

Process Information

Total Clean 440 can be used in in-line or stage batch cleaning processes. Total Clean 440 can only be used as a semi aqueous system. A minimum of 1 wash cycle, 2 rinse cycles and an effective forced air or vacuum drier is recommended.

	Wash	Rinse	Rinse	Dry
Total Clean only	Total Clean 440	Total Clean 440	Total Clean 440	Dry
Semi-aqueous system	Total Clean 440	Water	De-ionised water	Dry

Total Clean Process Stages

Wash - The consistency of cleaning results can be improved by operating at 30-60 C, the use of agitation, e.g. ultrasonics spray under immersion.
The length of time required to achieve effective cleaning will depend on the operating conditions and the contamination to be removed.
With high power ultrasonics at 50 C, 3 minutes is usually sufficient. Lower power ultrasonics or spray under immersion may require longer wash times (5-7 minutes). Replace when Total Clean 300 reaches 15%wt contamination.
Rinse - A minimum of 2 rinses, each lasting one minute, is recommended.
The cleanliness of the final Total Clean rinse or water rinse should be maintained by re-circulating through ion exchange and activated carbon packs
Dry - Forced air or vacuum drying is recommended. For Total Clean only systems a maximum temperature of 85 C is recommended

Waste removal

Contact your local authority for advice on registered waste contractors. Total Clean 440 does have value as a secondary fuel to cement kiln operators. Total Clean 440 has a calorific value of ca.7400Kcal/Kg.

Material compatibility

Total Clean 440 is compatible with:
High / Low density polyethylene HDPE / LDPE Linear LDPE, Polypropylene, Nylon, Butyl ethylenepropylene rubber, Poly ether ether ketone PEEK, Polyethersulphone, Phenolic resins

Packaging

Total Clean 440 is available in 10 litre, 25 litre and 205 litre containers.

Material Health & Safety Datasheet

WARTON METALS LIMITED

Section 1. Identification of the substance / preparation and of the company / undertaking	
Product Name:	Total Clean 440 – Seml Aqueous Total Submersion Cleaner
Manufactured By:	Warton Metals Limited Grove Mill, Commerce Street. Haslingden. Lancashire. BB4 5JT. ENGLAND.
Emergency Telephone:	+44(0)1706 218888
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Section 2. Composition / Information on Ingredients			
Ingredient	CAS No:	Nature of Hazard	%W.W Range
A mixture of Glycol & Glycol Ethers	111-90-0	Xi R36	<100.0%

Section 3. Hazards Identification	
	Irritating to eyes

Section 4. First Aid Measures	
Inhalation:	Remove to fresh air. Obtain medical attention. Perform artificial respiration if breathing has stopped. Treat symptomatically.
Skin Contact:	Wash with soap and water. Remove affected person from the source of contamination. Promptly wash contaminated skin with soap and warm water. Remove clothing if soaked through and wash as above.
Eye Contact:	Rinse with water for about 10 minutes whilst lifting the eyelids. Seek medical advice.
Ingestion:	DO NOT induce vomiting, drink water and seek medical advice. Give water to drink.

Section 5. Fire Fighting Measures	
Extinguisher Media:	Use water, dry chemicals, sand, dolomite etc., foam carbon dioxide. Foam should be applied in large quantities as it is broken down, to some extent by the product.
Special Fire Fighting Procedures:	Cool containers exposed to flames with water from the side until well after the fire is out. If water pollution occurs, notify appropriate authorities. Keep run off water out of sewers and water sources. Dike for water control.

Section 6. Accidental Release Measures	
	Extinguish all ignition sources. Avoid sparks and flames, heat and smoking. Ventilate well. Wash thoroughly after dealing with spillage. Runoff or release to sewer, waterway or ground is forbidden. Absorb vermiculite, dry sand or earth and place in containers.

Section 7. Handling & Storage	
Usage Precautions	Keep away from heat, sparks or open flame, avoid spilling liquid, skin and eye contact. Ensure good ventilation. Fire extinguishers should be kept handy.
Storage Precautions:	Keep in a cool, dry ventilated storage area and in close containers, prevent contact with air/oxygen (formation of peroxide).

Section 8. Exposure Controls & Personal Protection	
Occupational Exposure Limits:- Glycol Ethers 8hr TWA 100ppm 15 min STEL 300ppm	
Personal Protection:-	
Gloves:	Wear protective gloves if there is a risk of direct contact or splash.
Eye Protection:	Eye protection should be used.
Other Protection	Provide eyewash station.

Section 9. Physical & Chemical Properties.			
Appearance / colour:	clear liquid	Viscosity (40 C):	3.54 cSt
Odour:	Chemical	Form / colour:	colourless
Density:	0.962	Boiling Point Range	190-234 C
Flash point:	>58 C	Auto Ignition Temperature	210
Solubility in water:	miscible	Vapour Pressure	0.1mbar approx

Section 10. Stability & Reactivity	
Stability	Avoid air and oxidisers
Incompatible Specific Chemicals	Light metals
Materials to avoid	Strong oxidising agents

Section 11. Toxicological Information (toxic effects arising from exposure based on experimental and non experimental data)	
Toxic dose 1-LD50	2000mg/kg (oral rat) Irritating to eyes, mucous membranes and skin. Gastrointestinal symptoms including stomach upsets.
Medical Symptoms	
Target organs	Kidney, eyes, liver and skin
Toxicological information:	Inhalation: Vapours or mists may cause respiratory tract irritation. skin: may cause slight irritation Eyes: may cause slight irritation Ingestion can cause CNS, gastrointestinal and kidney injury.

Section 12. Ecological Information	
(Possible environmental effects and behaviour /ODP/aquatic toxicity):	LC50/Leuciscus idus/: 1805-2304 mg/1/48h. Bacteria-Pseudomonas putida. Toxic limit concentration 255 mg/1 Partition Coeff. Water/Octanol: 0.6

Section 13. Disposal Considerations	
(Safe disposal of product, its residues and packaging materials):	Do not allow run off to sewer, waterway or ground. Confirm disposal procedures with environmental engineer and local regulations. Contaminated packs should be emptied as far as possible, they can then be passed on for recycling after thoroughly being cleaned. Contaminated extinguishing water must be disposed of in accordance with local regulations.

Section 14. Transport Information	
ADR/RID Class Item:	N/A
IMO Class:	N/A

Section 15. Regulatory Information	
	Classification and labelling to EEC Directives
Classification symbol	Irritant/ Xi
Governing Directive:	Dangerous Preparations Directive 88/379/EEC
Nature of special risk:	R36 irritating to eyes
Safety advise:	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical attention.

Section 16. Other Information	
Recommended uses and restrictions:	It is the responsibility to ensure safe working within the workplace remains with the user.
Publications references:	The health hazard and general information contained within this material safety datasheet are given as a guide to the precautions required to maintain a safe working environment.

Section 17. Revision Dates	
Revised Date / Initials:	August 1999 VHM
Replacing:	All previous health and safety datasheets
Legend:	N/A = Not applicable or available at time of printing. N/D = Not determined or not determinable. Est. = Estimated

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