

2 AMA 175S Parts Degreasing Machines

Using Dowper MC Solvent

Year 2001 Serial number 1340 and Year 1997 Serial number 1070

The wash machine is a Fully enclosed unit consists of three units.

A wash unit with heated tank, still ultrasonic unit and vacuum pump and Chamber VOC monitoring system.

A refrigeration unit with cooling coils in a sealed chamber.

A carbon recovery unit using activated charcoal.

Parts for cleaning are placed in sealed wire baskets which loaded into a revolving cradle in a drum via a front swinging door that is manually operated when unlocked.

The heated solvent is pumped over the revolving parts to remove oil and particles, the used solvent is then pumped into the still to become vapour part of which is condensed over the cooling coils and returned back to the tank the remaining will be used for drying, leaving the oil and particles in the still.

Again heated solvent is pumped over the parts and a vacuum pump creates a vacuum in the drum where an ultrasonic unit removes any remaining particles, the solvent is the pumped back to the tank through multiple filters to remove any particles.

The vapours used to dry the parts are condensed and returned to tank.

A positive air flow is also used to dry the parts and this also passes through the activated charcoal before exhausting to atmosphere.

During the load/unload operation the recovery unit creates a positive air flow through the open door to contain any solvent loss.

A VOC monitor detects when solvent concentration reaches (1ppm) to allow door to be opened.

COSHH ASSESSMENT FORM

COMPANY	Tappex Thread Inserts Ltd / Pressavon
WORKPLACE LOCATION	Tappex
PLANT/PROCESS/ACTIVITY	New wash machine
NO OF EMPLOYEES DIRECTLY INVOLVED 2 Fitters 1 Operator	EMPLOYEES AND OTHERS WHO MAY BE AFFECTED (give details) Maintenance fitters plus outside contractors

SUBSTANCE(S) IN USE AND PRODUCED/EVOLVED
 (ie by products and wastes as well as substances actually used).

Name	Quantity in stock (kg)	Brief description of hazard	Data Sheet ref no
PERCHLOROETHYLENE/ PERTENE D6	2x 205Lt Drums	CARCINOGENIC CAT 3 NOSE & THROAT IRRITATION IF INHALED SKIN AND EYE IRRITATION	DATA SHEET 14

OCCUPATIONAL EXPOSURE LIMITS: (from HSE Guidance Note EH40)

Substance	WEL Long term exposure limit	WEL Short term exposure limit
TETRACHLOROETHYLENE	50 ppm 345mg/m ⁻³	100 ppm 689mg/m ⁻³

EXPOSURE(S) TO SUBSTANCE(S)

Nature of exposure (eg inhalation, skin or eye contact, ingestion)	Cause of exposure	Amount handled/used, if relevant (kg)	Frequency and duration
Skin contact	Automatically pumped into machine, only contact when feeding machines.	205 max	Top up as and when required from test sample
Eye contact	As above		
Ingestion of substance	Eating and drinking in area		

AIR MONITORING RESULTS:- (if any)

Substance	WEL exceeded	Air monitoring Ref No
TETRACHLOROETHYLENE	N/A	N/A

CONTROL MEASURES IN USE: (eg local exhaust ventilation (LEV), general ventilation, systems of work, cleaning, storage and spillage procedures)			
Description of Control		Is control effective	
Proprietary absorbent fibre used to clean up oil spillage		Yes	
Battery operated floor cleaner used once per shift		Yes	
Good general ventilation and air flow in factory		Yes	
Barrier cream available		Yes	
Ample supply of hot water for washing.		Yes	
Soap and skin cleanser supplied		Yes	
Adequate paper towels supplied		Yes	
Clean area provided for consumption of food		Yes	
Clean area provides for the changing of work overalls		Yes	
Eye bath unit close to wash machine		Yes	
PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING PROVIDED			
Plant/Process/Activity	Details of PPE supplied (state precise type)	Is the PPE	
		adequate	properly used
Wash area	Laundered overalls (min 3 pair per person) changed each week,	Yes	Yes
	Safety glasses	Yes	Yes
	Safety boots	Yes	Yes
	Ear protection	Yes	Yes
	Gloves BS1651	Yes	Yes
INFORMATION, INSTRUCTION AND TRAINING:			
Details of relevant training plus information and instructions given to employee	Was the training adequate	Are records held	
All COSHH sheets given to all Employees	Yes	Yes	
ASSESSMENT OF RISK:			
Is exposure to hazardous substances adequately controlled	YES NO MORE DATA REQUIRED		
HEALTH SURVEILLANCE			
Is health surveillance of employees in the section carried out	YES Hearing Test Only		
Is health surveillance required	NO		
ACTION REQUIRED:			
Details	By Whom	Target completion date	
Ensure that all material safety data sheets are available and that this sheet is issued in the employees handbook	L.D.Hunt	ASAP	
ASSESSED BY (name and position)	Date	Date of Previous Assessment	
Lawson Hunt H,S & Environmental Officer	March 2017	August 2016	

ffah

MATERIAL SAFETY DATA SHEET

Product Name: Perchloroethylene

Revision Date: 25th July 2005

REMOVE AND DESTROY PREVIOUS M.S.D.S.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

PERTENE D6 / PERC DCS

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>Range (%)</u>	<u>CAS No</u>	<u>Class</u>	<u>Risk Nos.</u>	<u>EINECS</u>
Tetrachloroethylene	Approx. 100	127-18-4	Harmful -Xn Dangerous for the environment - N	R40, S1/53	204-825-9

3. HAZARDS IDENTIFICATION: CARCINOGENIC CATEGORY 3

Inhalation	:	Irritation of nose and throat, depression of the central nervous system with headache, nausea, redness of skin, dizziness and drowsiness. Cardiac disorder, mortality risk.
Skin Contact	:	Prolonged contact may cause dermatitis through defatting action. Penetration possible
Eye Contact	:	May cause redness and pain, reversible in a few days
Ingestion	:	May cause nausea, vomiting, abdominal pains and symptoms similar to inhalation.

4. FIRST AID MEASURES: Wear self contained breathing apparatus in saturated atmosphere

Inhalation	:	Remove patient to fresh air, keep warm in a well-ventilated place. Perform artificial respiration if required, NOT MOUTH TO MOUTH . Seek immediate medical attention.
Skin Contact	:	Remove contaminated clothing. Wash with water. Seek medical advice.
Eye Contact	:	Irrigate with clean water for 15 minutes. Seek immediate medical attention.
Ingestion	:	Seek immediate medical attention. Do not induce vomiting. Give water to drink.
Medical Note	:	Seek immediate medical attention. Medical observation is indicated. 48 hours recommended.

DO NOT ADMINISTER CATECHOLAMINES (Cardiac effect)

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide (CO ₂), dry powder
Specific Hazards:	Temperature above 140°C: Thermal decomposition giving toxic and corrosive products: Phoagene Hydrogen chloride gas Carbon monoxide
Specific Methods:	Cool containers/tanks with water spray Remove all sources of ignition
Special Equipment for Fire-fighters:	Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

Transport Emergency Action	Stop Engine. Notify Police and Fire Services immediately. No naked lights. No smoking. Warn other road users. Keep public away from danger areas. Stay upwind.
Personal Protection:	Prohibit all sources of sparks and ignition - Do not smoke Avoid contact with skin and eyes and inhalation of vapours
Environmental Protection:	Do not release into the environment

SIS Chemicals Ltd., Linden House, 1 The Square, Pennington, Lymington, Hampshire, SO41 8GN
Tel: 01590 674202 Fax: 01590 679505 Email: sales@sischem.co.uk

N/A

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Do not let product enter into drains
Contain by damming

Methods for cleaning up:
Recovery: Pump into an inert labelled emergency container
Disposal: Recycle or incinerate at an approved waste disposal site only - See Section 13

7. HANDLING AND STORAGE

Handling: Storage handling precautions applicable to products:
HARMFUL. DANGEROUS FOR THE ENVIRONMENT
Provide for appropriate exhaust ventilation at machinery
Provide showers, eye-baths
Provide self-contained breathing apparatus nearby
Avoid ignition sources and contact with hot surfaces - **DO NOT SMOKE**
PROHIBIT opening of containers with blowlamp: risk of explosion

Storage: Keep containers tightly closed in a cool, well-ventilated place.
Keep away from sources of ignition
Store protected from moisture and heat.
Protect from light
Provide a catch-tank in a bunded area

Incompatible products: Acids and bases
Oxidizing agents
Oxygen

Packaging Materials: Recommended: Ordinary steel
Stainless steel
Drums coated inside with resin
Prohibited: Light metals and alloys in the presence of humidity, including parts of the
installation in contact with the product.
To be avoided: Plastic materials
Colourless glass

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Provide sufficient air exchange and/or exhaust in work areas
Exposure Limits: EH40/2005
Tetrachloroethylene (under review Table 4e)
Long term exposure limit (8-hour TWA reference period) 50ppm, 345 mg/m³
(Revised) Short term exposure limit (15-minute reference period) 100ppm, 689 mg/m³
Respiratory Protection: In case of insufficient ventilation wear suitable respiratory equipment
Hand Protection: Acrylo Nitrile gloves (BTT 121 - 240 minutes)
Eye Protection: Safety Glasses/goggles
Specific Hygiene: Avoid contact with skin and eyes and inhalation of vapours
Do not smoke

9. PHYSICAL AND CHEMICAL PROPERTIES

Odour, Colour, State: Characteristic, colourless, liquid
Boiling Point/Range: 121°C
Melting Point/Range: -22.4°C

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Decomposition Temperature: 140°C
 Flash Point: No flash point (in the test conditions)
 Vapour Pressure: (20°C): 22 hPa (mbar)
 (90°C): 409 hPa (mbar)
 Vapour Density: (20°C): 0.13 kg/m³
 Density: Liquid:
 (20°C): 1620 kg/m³
 Solubility: -
 Solubility in water: (20°C): 0.16 g/l
 Solubility in solvents: Soluble in most organic solvents
 Partition Coefficient (n-octanol/
 water): log Pow = 2.53 - 2.98
 Other Data: Relative vapour density/air: 5.32
 Relative evaporation time in comparison with ether: 8.1
 Henry's constant: 1509.4 Pa.m³/mol

10. STABILITY AND REACTIVITY

Conditions to avoid: Product is sensitive to light and moisture
 Keep away from heat and sources of ignition

Materials to avoid: Bases
 Acids
 Oxygen - Oxidizing agents (formation of: Explosive compounds or those sensitive to impact)
 Finely divided metals:
 Aluminium, Magnesium, Zinc, Titanium (risk of explosion)

Hazardous Decomposition Products: Temperatures above 140°C:
 Thermal decomposition giving toxic and corrosive products:
 Phosgene
 Hydrogen chloride gas
 Carbon monoxide

Further Information: Protect from light
 (formation of: Hydrogen chloride gas)

11. TOXICOLOGICAL INFORMATION

Acute Effects

Inhalation: Headache, sleepiness, nausea, difficulty in breathing. Confined space - Risk of Hypoxia
 Like other volatile aliphatic halogenated compounds the product can be carried by accumulation of vapours
 and/or inhalation of large quantities: Loss of consciousness and cardiac disorders aggravated by stress and
 lack of oxygen: risk of mortality.
 Experimental effects on animals
 Slightly harmful by inhalation
 LC50/inhalation/4h/rat = 4000 ppm
 LC50/inhalation/4h/mouse = 5200 ppm

Ingestion: Reported in animals:
 Slightly harmful by ingestion
 LD50/oral/rat = 2200 - 4400 ppm

SIS Chemicals Ltd., Lindon House, 1 The Square, Pennington, Lyminster, Hampshire, SO41 8GN
 Tel: 01590 674202 Fax: 01590 679505 Email: salcs@sischem.co.uk

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Skin Contact: Reported in animals:
Slightly harmful in contact with skin
Skin penetration possible
LD50/dermal/mouse - 5000 mg/kg

Local effects:

Inhalation: Irritating to respiratory system
(Concentrating greater than 600ppm)

Skin: Slightly irritating to skin
Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye: Possible irritation to eyes, irritation
Painful irritation reversible within a few days

Sensitisation:

Skin: Reported on animals:
Not a skin sensitizer (guinea-pig)

Chronic Toxicity: Target organs at high concentrations: Liver, Kidney, Nervous System
Experimental effects on animals
Maximum concentration with no toxic effect: 100 ppm/inhalation/various species/
several months

Genotoxicity: According to limited available data:
Overall not genotoxic

Carcinogenicity: Absence of causal relationships between incidences of cancers and exposure to product in epidemiological effects on animals: Slight carcinogenic effect reported.
Exposure to vapours:
Tumours of the liver and kidney observed at high doses in rats and mice are specific to these animal species
And are considered as unsuitable for extrapolation to man (inhalation/rat, mouse/2 year)

Reproductive: Foetal development:
According to available experimental data:
No embryo-fetotoxicity/ at non toxic maternal doses (rat, mouse/inhalation, oral route)
Fertility: Toxic effects on fertility not demonstrated (man, rodent)

12. ECOLOGICAL INFORMATION

Mobility: Rapid evaporation: half life time $t_{1/2} = 4-10d$ (river) - 1 month(s) (pond)

Degradability:

In water: Not hydrolysable
Not readily biodegradable: 11% after 28d

In air: Degradation by OH radicals: half life time $t_{1/2} = 5$ month(s)
Slight atmospheric ozone precursor: POCP = 0.005

In soils and sediments: Slight adsorption: $\log K_{oc} = 2.2$ (approximately)

Bioaccumulation: Slightly bioaccumulable: $\log Pow = 2.53-2.98$
Fish: Bioconcentration factor (BCF) (*Oncorhynchus mykiss*, *Lepomis macrochirus*) = 40-49

Ecotoxicity: -

Aquatic Toxicity: -

Acute Toxicity: Toxic to fish: LC50, 96h (*Oryzias latipes*) = 1.6 mg/l
Toxic to daphnia
Daphnia: EC(1)50, 48 h = (7.5-8.5) mg/l
Daphnia: no effect concentration, 48h = 0.5 mg/l
Practically not harmful to algae: IC50, 96 h (*Solnastrum capricornatum*) >816mg/l
Bacteria: EC10, 16h (*Pseudomonas putida*) >45 mg/l

Long term: Fish: Growth inhibition (*Poecilia sphenops*): LC0, 60d < 1.6 mg/l

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Terrestrial: Daphnia: Growth Inhibition, Reproductive inhibition: LOEC, 28d = 1.2 mg/l
Earthworm: artificial soil test, LD50, 14d (Eisenia foetida) = 100-320 mg/kg

13. DISPOSAL CONSIDERATIONS

Use only licensed waste hauliers and disposal contractors, in accordance with Waste Disposal Regulations. In doubt, consult Local Authorities.

14. TRANSPORT INFORMATION

UN Number : 1897
 Conveyance Classification : Toxic 6.1
 Packaging Group : 111
 ADR Classification : (road, rail) 6.1, 15°(C)
 ADR HIN : (sea) 6234/6.1
 IMCO Class : 6.1
 IMCO Sub-Risk :-
 Hazchem Code : 2(Z)
 Tremcard Number :-
 IMDG Page Number : UN Nr (IMDG) 1897 Labels: Keep away from foodstuff + Marine Pollutant
 Marine Pollutant : 'P' Marine Pollutant
 Air Transport : (ICAO) 6.1/1897 Label 6.1

15. REGULATORY INFORMATION

Primary Risks : Harmful - Xn
 Secondary Risks : Dangerous for the environment - N
 Label Risk Phrases : R.40. Possible risks of irreversible effects.
 : R51/53: Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment
 Label Safety Phrases : S(2): Keep out of reach of children
 : S.23. Do not breathe fumes/vapours
 : S.36/37 Wear suitable protective clothing and gloves.
 : S61: Avoid release to the environment
 CAS Number : 127-18-4
 EINECS Number : 204-825-9
 Customs Tariff : 38249095
 UK Customs Number :-
 EMS Number :-
 MFAG Number :-
 CHIP Index Number : 602-028-00-4

Recipients of the Material Safety Data Sheet must make their own assessment of workplace risk as required by other Health and Safety legislation.

16. OTHER INFORMATION

Date of issue: 27th August 2002
 Customs Tariff Number added

References:
 HSE Guidance Notes: EH40 1997

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