



# DOWPER

## Perchloroethylene

### For Degreasing Light Gauge Metals When Water Is Present

- **Not recommended for heat sensitive components**
- **Suitable for all metals**

In vapour degreasing applications, DOWPER\* offers excellent metal cleaning performance for light gauge metals. Its relatively high vapour temperature helps to eliminate high-melting, oxidised or hardened grease and contaminants. The high volume of solvent vapour condensing on the surface of contaminated parts helps it to achieve thorough, efficient cleaning.

DOWPER is stable against light metals, including aluminium. Its high boiling point also makes it stable against water and therefore suitable for drying porous metals from which trapped moisture is often difficult to remove.

The evaporation characteristics of DOWPER help metal surfaces to dry quickly and completely.

#### Environment, Health and Safety Information

- DOWPER is **not** recommended for open cold cleaning applications.
- DOWPER does not deplete the ozone layer. It has a very low impact on smog formation, global warming and acid rain.
- Always follow all equipment manufacturers' instructions.
- Ensure solvent emissions are within the legally permitted range.
- Like other chlorinated solvents, DOWPER may be harmful to human health and to the environment if used improperly. It is extremely important to instruct and advise all relevant personnel about approved procedures for safe handling, storage and the final disposal of chlorinated solvents.

- For more details, consult the MSDS (Material Safety Data Sheet) or ask for additional advice at your local Dow office or distributor.

#### Further Information

- Test kits are available to check the performance of the stabiliser system.
- MAXISTAB\* DK-2N stabiliser concentrate is available for pH/alkalinity restabilisation.

Chemical and physical properties	
Chemical Name	Perchloroethylene (Tetrachloroethylene)
Empirical Formula	C <sub>2</sub> Cl <sub>4</sub>
Molecular Weight (g/mol)	165.84
Structural Formula	CCl <sub>2</sub> =CCl <sub>2</sub>
CAS-No.	000127-18-4
EINECS-No.	204-825-9
EEC-Index No.	602-028-004
Boiling Point	121 °C
Freezing Point	-22 °C
Flash Point	none
Initial Thermal Breakdown	150 °C
Auto-ignition Temperature	none
Explosive Limits in air	none
Water Solubility (Solvent in Water)	0.015 % wt. (20 °C)
Water Solubility (Water in Solvent)	0.010 % wt. (20 °C)
Azeotrope with Water (Boiling Point)	87 °C
Water in Condensate	15 % wt.
Density (20 °C)	1.623 g/cm <sup>3</sup>
Volume Coefficient of expansion (20 – 40 °C)	0.00108/°C
Viscosity (20 °C)	0.880 mPa·s
Surface Tension (20 °C)	32.2 mN/m
Specific Heat	0.90 kJ/kg/ K
Heat of Vaporisation at Boiling Point	209.8 kJ/kg
Vapour density (air = 1.0)	5.8
Dielectric Strength	30 000 Volt
Dielektrische Constant (24 °C, 100 MHz)	2.24
Specific Resistivity (24 °C)	9.8 x 10 <sup>9</sup> Ohm·cm
Relative Evaporation Rate (diethyl ether = 1)	9.5
Kauri Butanol value	90

Chemical and Physical Properties		-20 °C	0 °C	20 °C	40 °C
Vapour pressure	hPa	1.3	5.4	18.4	52
Conc. of saturated vapour	g/m <sup>3</sup>	10	39.5	125	332
	ppm	1 246	5 340	18 160	51 424

Typical Properties of DOWPER <sup>1</sup>		
Alkalinity as NaOH	ppm	max. 30
None volatiles	ppm	max. 25

Workplace concentration		
	ppm	mg/m <sup>3</sup>
UK: OEL list EH 40/98, OES	50	335
US: ACGIH (1997), TLV	25	167

<sup>1</sup> The above data have been obtained in laboratory test and are typical of the product. They do not however constitute sales specifications and should not be regarded as such.

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