

# SUPRAMOR<sup>®</sup> 4 BLACK

## COLOR CONTRAST MAGNETIC INK

### 1 Description

Supramor<sup>®</sup> 4 Black is a ready-to-use color contrast magnetic ink ideal for the inspection of ferromagnetic materials, structures and components by the magnetic particle inspection method. A typical application is the inspection of welds, pressure vessels and pipeline in the oil, gas and petrochemical industries as well as power plants.

Supramor<sup>®</sup> 4 Black consist of finely divided black magnetic particles suspended in high flash point, dearomatized, odorless petroleum distillate designed to provide good particle mobility. The particles have been selected for their high magnetic response, low coercivity and prolonged operational life.

Supramor<sup>®</sup> 4 Black and MPI Diluent HF use a hydrocarbon corresponding to the AMS 2641, Type 1 Magnetic Particle Inspection Vehicle with a flash point exceeding 93°C / 200°F.

Supramor<sup>®</sup> 4 Black is available as bulk material and as aerosol. It offers optimal performances when used with the WCP 712 or 722 contrast paint and the remover S80.

#### Conformances

- ✓ ASME Boiler & Vessel Code Section V, Article 7
  - ✓ ASTM E-1444
  - ✓ CEN ISO 9934-2
  - ✓ SAE AMS 3041/3043 & 2641 Type 1
- Ask your Chemetall representative for a complete list of approvals

### 2 Physical and chemical properties

Property	Typical Value	Unit	Test Method
Appearance	suspension of black powder	-	-
Settlement	1.5 – 2.4	%	AMS 3041
Flash point	>93 / >200	°C / °F	ASTM D93
Density	0.82 at 20°C / 68°F	g/cm <sup>3</sup>	volumetric
Viscosity	2.2 at 40°C / 104°F	mm <sup>2</sup> /s	

These are typical values only and do not constitute a specification.

### 3 Application

Aerosol cans and bulk containers must be shaken thoroughly before and during use in order to homogenize the powder concentration.

#### 3.1 Method of use

Surface temperature should be between -20 and 75°C (-4 to 165°F).

Components are magnetized and Supramor<sup>®</sup> 4 Black is applied to the test area, normally by spraying immediately prior to and during magnetization. Application of Supramor<sup>®</sup> 4 Black should cease before the magnetization is switched off. Defects will show up as well defined black indications and inspection should take place in good white light of at least 500 Lux (refer to the controlling specification for levels of ambient light acceptable for inspection).

### 3.2 White contrast paint

It is not practical to use Supramor<sup>®</sup> 4 Black on dark substrates as it would be difficult for the inspector to identify indications against the dark background. For this reason, the white contrast paint WCP 712 (or 722, peelable) is frequently used to provide a contrasting background against the black indications, (alternatively, fluorescent fluids such as the Lumor<sup>®</sup> inks may be used if a UV light is available). WCP712 can then be left on the surface or removed with the remover S80 (WCP 722 can also be peeled off).

### 4 Effects on materials

When Supramor<sup>®</sup> 4 Black is used in the prescribed manner, no significant corrosion will occur on ferrous materials. Equipment/tanks should be constructed of stainless steel.

### 5 Storage

Store in a cool place, with protection from freezing conditions. Shelf life of Supramor<sup>®</sup> 4 Black is 36 months for aerosols and 60 months as bulk material.

### 6 Labor and environmental protection

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

All local and national regulations on the transport, storage, use and waste treatment of chemicals in concentrated or diluted form and as working solutions must be obeyed.

### 7 General information

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advice on specific problems and applications.

The above details have been compiled to the best of our knowledge on the basis of tests and research work and with regard to the current state of our practical experience. This technical product information is non-binding. No liabilities or guarantees deriving from or in connection with this leaflet can be imputed to us. Statements relating to possible uses of the product do not constitute a guarantee that such uses are appropriate in a particular user's case or that such uses do not infringe the patents or proprietary rights of any third party. The reproduction of any or all of the information contained in this leaflet is expressly forbidden without Chemetall's prior written consent.

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