



Abrasives, Electro Minerals & Metals

MATERIAL SAFETY DATA SHEET

Brand Name(s): MacCarbide Product Ranges Mac'Ants Group Ref: MC_C7 & MC_C5

Product: Synthetic Second Silicon Carbide Range

1. Identification of the Substances/Preparation & Company

Preparation: The products this data pertain to is as above & relate to; Electro Fused Minerals Metals & Abrasives – MacCarbides

Company: Mac'Ants Abrasives Limited t/a Mac'Ants Group
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2. Composition/Information on Ingredients

Chemical Description

Compound	Chemical Formula	Typical Content %	CAS No. / EINECS No.
Silicon Carbide	SiC	48.50 - 69.91%	409-21-2 / 206-991-8
Aluminium Oxide	Al ₂ O ₃	21.79 - 36.35%	1344-28-1 / 215-691-6
Free Silicon	Si	0.25 - 0.40%	7440-21-3 / 231-130-8
Silica	SiO ₂	3.88 - 5.31%	7631-86-9 / 231-545-4
Free Carbon	C	0.15 - 0.25%	7440-40-0 / 231-153-3
Iron (Surface)	Fe ₂ O ₃	<0.30%	1309-37-1 / 215-168-2
Iron (Amorphous)	Fe ₂ O ₃	2.49 - 4.91%	1309-37-1 / 215-168-2
Titanium Dioxide	TiO ₂	0.98 - 1.64%	13463-67-7 / 236-675-5

Hazardous Components: The hazardous components are not present in sufficient concentration for the product to require classification under EC Directives.

3. Hazard Identification.

Human Health Effects: The material is not considered hazardous in normal use but the following potential hazards should be recognised;

- (a) Dust - Inhalation. (See below)
- (b) Skin irritation in susceptible individuals.

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- (c) Noxious fumes evolved during fire.
- (d) Risk of dust explosion.

Environmental Effects: On the basis of information available, these products are not expected to produce any significant adverse environmental effects when recommended use instructions are followed.

4. First Aid Measures

Skin Contact: Wash with plenty of water or soap and water. If irritation persists or any sign of tissue damage is apparent, obtain medical advice immediately. As with any industrial product, contact with skin can cause irritation leading in some cases to dermatitis (Reference 7.1) and it is wise to take the usual precautionary measures of obtaining medical clearance for employees who have a history of skin disease or allergy. Skin contact should therefore be avoided as much as emollient such as white petroleum jelly (Vaseline) is useful to minimise dryness of the skin.

Eye Contact: Irrigate with copious quantities of water for at least ten minutes and obtain medical advice if irritation persists or if there is any tissue damage.

Inhalation: In the event of exposure to levels above those stated above, evacuate individuals concerned to a dust free environment, preferably into fresh air - if respiratory difficulties are encountered seek medical advice immediately. We recommend the use of approved dust masks or where abrasive blasting operations are conducted then appropriate extraction plant should be utilised or approved breathing apparatus or ventilation air changes of 75 times per hour.

Ingestion: The material should not be ingested and for this reason the preparation and consumption of food and drink in working areas should not be allowed. Rinse mouth with water and obtain medical advice immediately where accidentally ingested.

5. Fire Fighting Measures

Extinguishing Media: Any available.

Exposure Hazards: This product will not ignite as a dust in its own right in any suspended dust concentrations. The product is an inert electro mineral upto its physical decomposition point. Consideration of dust explosion levels must however be considered where a substrate being processed creates a possible explosive dust, in this instance refer to the component / metal / substrate suppliers data pertaining to its respective characteristics

Protective Equipment: Fire fighters & others exposed, wear self-contained breathing apparatus and be aware of other combustible substances involved in any fire.

6. Accidental Release Measures

Personal Precautions: Avoid dust inhalation, observe occupational exposure limits detailed in section 8.

Environmental Precautions: Do not allow to enter drains & water courses.

Methods of Cleaning Up: Vacuum or sweep up, for disposal see section 13.

7. Handling & Storage

Handling: Handle in normal manner and be mindful of manual handling methods (weights), keep dust formation to a minimum.

Storage: Store in closed bags / containers in dry well ventilated areas.

8. Exposure Controls/Personal Protection

Engineering Measure: In a blast cabinet with dust collectors or a closed circuit blast cleaning system are preferred methods of use. If a blast room is used it must have a dust extraction system to keep dust levels below the occupational exposure limits. Ventilation of cabinets and rooms should be 75 air changes per hour

For use in refractory linings, slip resistant products, bonded & coated abrasives, ceramic materials & other applications where product is added, poured or applied the occupational exposure limits for the given product must be adhered to.

Occupational Exposure Limits:

All dusts have been assigned exposure limits. The following information has been taken from Guidance Note E.H.40/2005 from the Health and Safety Executive (Occupational Exposure Limits 2005);

Compound	Chemical Formula	Typical Content %	CAS No. / EINECS No.	Exposure Limits (Long Term 8 hours TWA)	
				Total Inhalable	Respirable Dust
Silicon Carbide (Not whisker)	SiC	48.50 - 69.91%	409-21-2 / 206-991-8	10 mg.m ⁻³	4 mg.m ⁻³
Aluminium Oxide	Al ₂ O ₃	21.79 - 36.35%	1344-28-1 / 215-691-6	10 mg.m ⁻³	4 mg.m ⁻³
Silicon Dioxide (amorphous)	SiO ₂	3.8 - 5.3%	7631-86-9 / 231-545-4	6 mg.m ⁻³	2.4 mg.m ⁻³
Titanium Dioxide	TiO ₂	0.98 - 1.64%	13463-67-7 / 236-675-5	10 mg.m ⁻³	4 mg.m ⁻³
Iron Oxide	Fe ₂ O ₃	2.49 - 4.91%	1309-37-1 / 215-168-2	--	5 mg.m ⁻³
Other total oxides, trace amounts.					

Respiratory & Eye Protection: In blasting environments if a blast room is used, an air fed blast helmet with built in visor to EN146 must be used. For applied, poured and added applications wear approved dust mask and eye protection.

Skin & Hand Protection: Prolonged contact with the skin should be avoided and protective clothing such as overalls and PVC or cotton-chrome gloves should always be available. Face masks should be worn when dust is likely to be created.

Ear Protection: Wear hearing protection when blasting and in other applications abide by noise regulations dictated by employer.

9. **Physical / Chemical Properties**

Product Ref	Appearance	Odour	Decomposition Point	Insoluble in
MC_C5 & 7	Iridescent black granules, lumps, powders	None	>1400 °C	Water

10. **Stability & Reactivity**

- 10.1 Conditions to avoid:** Excessive thermal exposure to decomposition points.
- 10.2 Hazardous Decomposition:** None, products change from solids to liquids with no adverse decomposition.
- 10.3 Products:** None.

11. **Toxicological Information**

11.1 Laboratory Data: These materials have been tested for toxicity in line with REACH requirements for submission of the technical dossier as part of the registration for High Volume Industrial Substance. They are not classified under EC Directives.

11.2 Human Data: The human data available is compiled as part of the REACH Registration Technical Dossier under Joint Submission for Aluminium Oxides and / or Silicon Carbides. It is not classified under EC Directives and exposure controls should be adhered to, refer to section 8.2.

12. **Ecological Information**

12.1 Assessment: Handled correctly these products pose no serious environmental hazard.

12.1 Test Results: Mac'Ants Group has not conducted any environmental studies on these products directly, but has been part of the Joint Submission Technical Dossier for REACH registration of Aluminium Oxide and / or Silicon Carbides where applicable. These products do not contain any substances that are classified under EC legislation for environmental effects.

13. **Disposal Considerations**

13.1 Advised Disposal: In accordance with the Environmental Protection Act (Duty of Care) Regulations 1991, in use as a blast media the product is likely to become mixed with the stripped coating and or some substrate. These need to be taken into account during disposal. Similarly the inclusion of these products in applied, poured and bound products/applications the binding materials / materials worn against them must be borne in mind and their disposal implications taken into consideration.

14. **Transport Information**

14.1 Land Transport (ADR/RID) Not classified according to Transport Regulations for Hazardous / Dangerous Goods.

14.2 Marine Transport (IMO/IMDG) Not classified according to Transport Regulations for Hazardous / Dangerous Goods.

14.3 Air Transport (IATA) Not classified according to Transport Regulations for Hazardous / Dangerous Goods.

15. **Regulatory Information**

15.1 Classification This product range is not hazardous according to Directive 67/548/CE, 199/45/CE and 1272/2008/CE.

15.2 Labelling Requirement Not subject to labelling in accordance with current regulations in force as detailed at 15.1.

16. **Other Information**

16.1 Intended Use: These products are used as blast medias, slip resistant materials, refractory linings, abrasive aggregates. If they are used for any other purpose, the advice of Mac'Ants Group should be sought regarding any additional hazards that may arise.

16.2 REACH Registration: These materials are registered with ECHA according to REACH regulation for high volume industrial substances. To maintain an update on the reach registration process visit www.macants.co.uk/reach_regs.htm .

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