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Product:	**TENBLOC®**	**Rev No:**	**REV 3 OCT 04**

1. Identification of Substance / Product

Product Name: TENBLOC®.

2. Composition

	MZ20
Si	65.0%
Mg	0.7%
Al	1.0%
Ca	1.0%
Zr	4.3%
Mn	3.3%
Bi	-
La	-
Ba	-
Fe	Balance
P	300ppm max
As	100 ppm max

3. Hazards Identification

Handling of dry, dust-free Tenbloc® is not considered a health risk when usual safety precautions are taken.

Moist Tenbloc® will liberate a small amount of Hydrogen and poisonous Phosphine and Arsine gas. The tendency to liberate Phosphine decreases with increasing Silicon content.

Inhalation of the Phosphine and Arsine gas in concentrations exceeding the OES can lead to serious poisoning with discomfort, continuous vomiting, headache, gastric pain, rapid pulse and eventually loss of consciousness.

Dust of Tenbloc® is considered to be 'nuisance dust'. High dust concentrations may irritate the mucous membranes of the airways. Also irritations to the skin and eyes.

4. First Aid Measures

General
Acute poisoning due to handling of Tenbloc® is unlikely to occur if usual safety precautions are taken.

	Inhalation Remove patient from source of dust/gas. If unconscious – loosen tight clothing and place in recovery position. With breathing difficulties/arrest – give Oxygen/artifical respiration as appropriate and seek medical attention. With heart arrest – give external heart compression and seek medical attention. **Ingestion** Do not induce vomiting. Seek medical attention immediately. **Skin** Wash with soap and water. **Eyes** Flush abundantly with clean water. **Information to Health Personnel** There is no specific treatment for Phosphine poisoning. After administration of Oxygen, symptomatic treatment with special attention to circulation of lung, liver and kidney functions. **Health Surveillance** Health control, including lung examination and function testing. Lung edema may occur after several days.

5.	Fire Fighting Measures
	Tenbloc® in lump form is not inflammable. Fine dust (particle size –325 mesh) of FeSi and its alloys can form explosive mixtures with air. This material is very active. It will readily propagate flames and will generate considerable pressure and/or explode. Highly inflammable Hydrogen gas is liberated, by Tenbloc®, when wet. Fire Extinction – powder, sand or isolation of the fire to allow it to burn out. **Preventative Measures** Avoid use of open fire and sources of ignition on sites where explosive dust of FeSi and its alloys are present. By repair work, etc, remove dust from work site and ensure that welding particles and sparks cannot ignite dust in surrounding areas.

6.	Accidental Release Measures
	Destruction And Removal of Spill Collect and remove for re-use. No special precautions.

Emergency Procedure Against Leakage
General

Collect and remove material in suitable container. Observe that moist Tenbloc® must not be kept in tightly closed containers.

By failure, consult producer or his local agent. By spills in the outer or inner environment consult the authorities concerned (Pollution Agency etc) according to local regulations and rules. By serious accidents inform the authorities concerned.

Water Contamination
Tenbloc® is insoluble in water. Observe possible national/international and/or local pollution regulations and rules.

Contamination of Public Environment
Collect and remove material as previously described.

7. Handling & Storage

Tenbloc® should be stored in a dry place with good ventilation.

Tenbloc® is packed in individual boxes nominally 10kgs each. Care should be exercised when lifting and carrying these boxes.

8. Exposure Controls/Personal Protection

Occupational exposure levels as set by the Health & Safety Executive (ref: EH40, latest issue):

Element	CAS No.	Exposure		
Si	7440-21-3	10mg.m^{-3}	+	*
		4mg.m^{-3}	++	*
Al	7429-90-5	10mg.m^{-3}	+	*
		4.mg.m^{-3}	++	*
Zr compounds (as Zr)	7440-67-7	5mg.m^{-3}		*
		10mg.m^{-3}		
Mn & compounds (as Mn)	7439-96-5	5mg.m^{-3}		*

Substances which may be given off from Tenbloc® when in use:

Element	CAS No.	Exposure		
Iron oxide fume (as Fe)	1309-37-1	5mg.m^{-3}		*
		10mg.m^{-3}		**
Magnesium oxide (as Mg)	1309-48-4	10mg.m^{-3}	+	*
		4mg.m^{-3}	++	*
		10mg.m^{-3}	++	**
Calcium oxide	1305-78-8	2mg.m^{-3}		*
Manganese fume	7439-96-5	1mg.m^{-3}		*
		3mg.m^{-3}		**

Substances which are given off when the product becomes wet:

Element	CAS No.	Exposure	
Phosphine	7803-51-2	0.42mg.m^{-3}	**
	7784-42-1	0.16mg.m^{-3}	*

\+ = long term exposure limit (8 hours TWA)
++ = short term exposure limit (15 min ref period)
* = total inhalable dust
** = respirable dust

Personnel Protective Equipment
Fine dust mask (P2 or P3) to be used when OES value is exceeded, or by working in dusty area over a longer period. Use hand protection (gloves) and eye protection (glasses).

9. Physical & Chemical Properties

Tenbloc® is supplied in various sizes in the weight range typically 5-300gms and diameters 20-75mm. The material is odourless when dry with a metallic grey surface. An onion-like smell of Phosphine is given off on contact with water (humidity), acids or alkalines.

Melting point : Approx 1200oC
Block density : Approx 2.5g.cm^{-3}

10. Stability & Reactivity

Tenbloc® reacts with acids, alkalines and water (humidity) under liberation of small amounts of Hydrogen and very poisonous Phosphine and Arsine gas.

With Hydrofluoric Acid poisonous Silicon tetrafluoride (SiF4) is formed.

The material is practically inert towards other substances.

11.	Toxicological Information
	Tenbloc® is a non toxic material. By appropriate handling, storage and use there is, according to our knowledge, no possible damage to be expected.

12.	Ecological Information
	Tenbloc® is not categorised as dangerous for the environment.

13.	Disposal Considerations
	Prior to disposal of large quantities of this material advice should be sought from the relevant waste regulation authority.

14.	Transport Information
	Tenbloc® is not classed as hazardous for shipment by road, sea or air.

15.	Regulatory Information
	No special markings are required for Tenbloc®. All components are exempt from the TSCA inventory.

16.	Other Information
	The information contained in this data sheet does not constitute the user's own assessment of workplace risk as required by HSWA. See Tenbloc® product data sheet for further technical information.

SPC/SRS
13.10.04