SAFETY DATA SHEET

CALDE™ TROWEL SD 99

Version :1
MZM90002
11/08/2008

1. PRODUCT / COMPANY IDENTIFICATION

Commercial name

CALDE™ TROWEL SD 99

Description

Refractory castable for placement by trowelling, patching or coating

Type

Preparation- unshaped refractory material

Status

New

Manufacturer

CALDERYS France - Research Centre - 4 allee de Lausanne - F-38070 Saint Quentin Fallavier|CALDERYS Deutschland GmbH & Co OHG - Research Centre - In der Sohl 122 - D-56564 Neuwied

Supplier

CALDERYS

Person to contact

J-P.TARGE - Tel (33) 4.74.99.99.40 - Fax (33) 4.74.99.99.66|CALDERYS France - Research Centre - 4 allee de Lausanne - F-38070 Saint Quentin Fallavier

Emergency telephone

Centre Antipoison et de Toxicovigilance de Paris Tél (33) 01 40.05.48.48 Fax (33) 01 40.05.41.93

2. COMPOSITION / INFORMATION ON INGREDIENT

Main components

Chemical name	CAS N° EINEC N°	Weigh%	Symbol	Risk
Chrome (III) oxide	1308-38-9 *215-160-9*	>50 <100	-	-
Inert component		>2.5 <10	-	-

3. HAZARDS IDENTIFICATION

Miscellaneous

Under oxidising alkaline conditions some Chromium(VI) compounds may be formed
Chromium (VI) compounds are known to damage the skin and respiratory tract
Chromium (VI) compounds may lead to aquatic toxicity
The product should be installed in a ventilated area
On heating the installed product water vapour is released.

Eye :

Mechanical irritation from aggregate or fine particules during manipulation

Skin :

Possible temporary irritation

Inhalation :

Temporary irritation from dust during handling

4. FIRST AID MEASURES

First aid measures

Eye :

Rinse with water, if irritation persists seek medical advice

Skin :

Wash with soap and water, if irritation persists seek medical advice

Inhalation :

Remove to fresh air

5. FIRE-FIGHTING MEASURES

This product is not combustible or explosive as received
It is compatible with standard fire-fighting methods

6. ACCIDENTAL RELEASE MEASURES

Personal precautions - see Section 8
Remove spilt material with brush and shovel

7. HANDLING AND STORAGE

Engineering measures,such as local dust extraction, to ensure compliance with Occupational Exposure Limits

Handling

Recommended packaging; multi-ply paper sacks or big-bags

Storage

Store in dry temperate conditions

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Controls

For information, attached Appendix 9.2 (PRE/ R51 Rev 06 03 03) : Limit values according to the leglislation of the listed countries.
Customers are advised to check National legislation for limit values and period of reference

Technical measure

Provide appropriate exhaust ventilation and filtering at the places where dust can be generated.

Substance

Substance	CAS N° EINEC N°	Long Term Expo 8 hr TWA mg/m3
Chrome (III) oxide	1308-38-9 *215-160-9*	-
Inert component		-

Personal protection

Eye :

Safety glasses with side-shields are recommended.

Skin :

Standard industrial clothing is suitable for installations at ambient temperatures

Hand :

Industrial gloves are recommended

Respiratory :

Use appropriate respiratory protection device
Consult the local reglementation.
Maintain adequate ventilation as long as handling

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Dry mixture of aggregates and fine powders

Melting point

> 1800 °C

Packing Density

2.18 g/cm3

Solubility

Slightly soluble in water

10. STABILITY AND REACTIVITY

No reaction in air; exposure to moisture may cause lumps which although not hazardous will damage the product

11. TOXICOLOGICAL INFORMATION

This material provides little threat to human health within the described standards of industrial hygiene

12. ECOLOGICAL INFORMATION

The unused product is not considered dangerous for the environment

13. DISPOSAL CONSIDERATIONS

Do not flush into drains or surface water.

Unused material can be disposed of in a licensed solid waste landfill

Before destruction and disposal of the refractory lining, customers are adviced to evaluate any changes to the product that may be induced by the introduction of substances, or operating conditions outside the control of the Vendor, eg formation of undesirable compounds after reaction with slags, hot combustion gases, liquid metals, high temperatures or other contact materials. These may include chrome (VI) compounds or transformation of amorphous silica to crystalline forms

Please consult local regulations and statuary European Union provisions

14. TRANSPORT INFORMATION

No special precautions are required in the European Union

15. REGULATORY INFORMATION

This preparation does not require a hazard warning label in European Union

16. OTHER INFORMATION

This Safety Data Sheet (SDS) has been prepared in strict observance of the EC Commission Directive 2001/58/CE of 27 July 2001 amending for the second time Directive 91/155/EEC .

Other information sources include :

ISO/DIS 11014 "Safety data sheet for chemical products"

The UK Health & Safety Commission proposals for the chemicals (Hazard information & Packaging) Regulations and associated documents

This information was obtained from sources believed to be reliable, and cannot be considered to be exhaustive. It is given for guidance only without any warranty, express or implied.

The conditions or methods of handling, storage, use and disposal are beyond our control and may be beyond our knowledge

Thus we cannot accept responsability for any loss, damage or expense connected with the handling, storage, use or disposal of the product .

APPENDIX 9.2: LIMIT VALUES ACCORDING TO THE LEGISLATION OF THE LISTED COUNTRIES.

For legislation references, see annex 9.3	CAS Nr	USA				CAN		AT		BE		FI		FR		DE		NL		NO
Rev 06 March 2003		OSHA		ACGIH																
Substance		*8 hrs*	*short time*	*8hrs*	*short time*	*8hrs*	*short time*	*8 hrs*	*15 min*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*15 min*	*8 hrs*	*short time+*	*8 hrs*	*short time*	*8 hrs*
Ammonia	7664-41-7		35	17	24	17	24	18		17	24	18	30	18	36	35	35	14	36	18
Benzene	71-43-2	15	3	1,6 A1	8 A1	16		32		32		15	30	16		3.2	12.8	7.5		3
Benzo(a)pyrene	50-32-8		0.2		A2			0.002	0.008			0.01		0.0015		0.002	0.008			
Carbon black	1333-86-4		3.5		3,5 A4	3.5				3.5				3.5				3.5		3.5
Carbon monoxide	630-08-0		55		29	40	460	33		58	465	34	86	55		33	66	29	139	40
Chromium metal	7440-47-3		1		0,5 A4	0.5				0.5				0.5				0.5		0.5
Chromium II 1)			0.5		0,5 A4															
Chromium III 2)			0.5																	
Chromium III oxid	1308-38-9		0.5		0,5 A4															
Chromium VI 3)		0.1			0,05 A1			0.05* (I)	0.2* (I)			0.05		0.05	0.1	0,05 (I)	0,2* (I)	0.025	0.05	0.02
Chromium VI 4)					0.1															
Coal tar pitch	8007-45-2		0.2	0.2						0.2				0.2				0.2		0.04
Pitch, coal tar, high temp.	65996-93-2			0,2 A1										0.2						
Cresol (all iso)	1319-77-3		22	22		22		22		22		22	45	22		22	22	22		22
Ethane 1,2-diol	107-21-1			100		127		26		129		10	22		125	26	26	10		10
Formaldehyde	50-00-0	0,75 ppm	2 ppm	0.37		1.5	3	0.6		1.2	2.5		1.3	0,5 ppm	1 ppm	0.6	0.6	1.5	3	0.6
Furfural	98-01-1		20	7,9 A3		8		20		8		20	40		8	20		8		8
Furfuryl alcohol	98-00-0		200	60	40	40	60	20		41	61	20	40	40		40		20	200	20
Graphite																				
- Respirable dust	7782-42-5		5 (R)		2	5		6(R)		2		5		2 (R)		6 (R)		2		5
- Total inhalable dust			15 (I)																	
Man made mineral fibres														1 F/ml		0,5 F/ml	2 F/ml	2 F/ml		1 F/ml
Nuisance dust																				
- Respirable		5		3				6 (R)						5		6 (R)		5		5
- Total (inhalable)		15		10								10		10.5				10		10
Phenol	108-95-2		19		19 A4	19		7.8		19		19	38	19		19	19	19		4

Phosphorus pentaoxide	1314-56-3							1 (I)		1			5.9	1		1 (I)	1 (I)	1		1
Refractory ceramic fibres	142844-00-6							0,5 F/ml+	2 F/ml					0,6 F/ml		0,5 F/ml	2 F/ml	0,5 F/ml		1F/ml
Silica amorphous, fumes 5)	68855-54-9					10		0,3 (R)								0,3 (R)				1.5
Silica amorphous, fused 6)	60676-86-0				0.1			0,3 (R)		0.1						0,3 (R)				
Silica, crystalline																				
- Quartz	14808-60-7		250 ??		0.1			0,15 (R)		0.1		0.2		0.1		0,15 (R)		0.075		0.3
- Cristobalite	14464-46-1				0.05			0,15 (R)		0.05		0.1		0.05		0,15 (R)		0.075		0.15
- Tridymite	15468-32-3				0.05			0,15 (R)		0.05		0.1		0.05		0,15 (R)		0.075		0.15
Silicon carbide	409-21-2		15		10 A4	10		4(R)		10				10		4 (R)		10		
Titanium dioxide	13463-67-7		15		10 A4	10		6 (R)		10				10		6 (R)		10		10
Zirconia	1314-23-4		5		5 A4			5* (I)		5		5		5		5* (I)	20* (I)	5*		5*

1) = Water soluble Chromium(II) compounds e.g. $CrCl_2$ (CAS 10025-73-7)

2) = Water soluble Chromium(III) compounds e.g. CrCl3 (CAS 10049-05-5)

3) = Water soluble Chromium(VI) compounds e.g. chromic acid (CAS 133-82-0)

4) = Water insoluble Chromium(VI) compounds e.g. leadchromate (CAS 7758-97-6)

5) Kieselguhrsoda ash flux-calcined

6) Silica vitreous

When not specified, units are mg/m3

+ according to TRGS 900

** measured as CrO3*

** expressed as Zr*

(I) = (total) inhalable dust

(R) = Respirable dust

F = WHO fibres (Diam< 3 µm, L > 5 µm, L/Diam > 3).

A1 = Confirmed human carcinogen

A2= Suspected human carcinogen

A3 = Confirmed animal carcinogen

A4 = not classifiable as a human carcinogen

A5 = not suspected as a human carcinogen

APPENDIX 9.2: LIMIT VALUES ACCORDING TO THE LEGISLATION OF THE LISTED COUNTRIES.

For legislation references, see annex 9.3	SE		GB		DK		P		IT		ES		CH		CS	
Substance	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*	*8 hrs*	*short time*
Ammonia	18	35	18	25	18		17	24	17	24	18	25	18	36	14	36
Benzene	1.5	9	16		1.6				32		16		16		3	10
Benzo(a)pyrene	0.03	0.005							A2		A2				0.005	0.025
Carbon black	3		3.5	7	3.5		3.5		3.5		3.5					
Carbon monoxide	40	120	55	330	29		29		29		29		33	66	30	150
Chromium metal	0.5		0.5		0.5		0.5				0.5		0.5			
Chromium II 1)			0.5								0.5					
Chromium III 2)			0.5								0.5					
Chromium III oxid											0.5					
Chromium VI 3)	0.02	0.06	0.05								0.05					
Chromium VI 4)											0.01					
Coal tar pitch											0.2					
Pitch, coal tar, high temp.									0.2							
Cresol (all iso)			22		22		22		22		22		22	44	20	40
Ethane 1,2-diol	130	190	10		10		127			100			125		50	100
Formaldehyde	0.6	1.2	2.5	2.5	0.4		0.37			0.37		0.37	1.2	2.4	0.5	1
Furfural	8	20	8	40	7.9		7.9		7.9		8		8		10	20
Furfuryl alcohol	20	40	20	60	20		40	60	40	60			40			
Graphite																
- Respirable dust	5		2.5		2.5		2		2 (R)		2		2.5			
- Total inhalable dust			10													
Man made mineral fibres	1 F/ml		5 mg/m³ or 2 F/ml	5 mg/m³ or 2 F/ml												
Nuisance dust																
- Respirable	5		5								3					
- Total (inhalable)	10		10								10					
Phenol	4	8	20	38	4		19		19		20		19	38	7.5	15
Phosphorus pentaoxide	1	3			1						1	2	1	2	1	2
Refractory ceramic fibres	1 F/ml		5 mg/m³ or 2 F/ml	5 mg/m³ or 2 F/ml							5mg/m³ or 1F/ml					
Silica amorphous, fumes 5)			4 (R)		1.5						2		10		2	
Silica amorphous, fused 6)			0.3				0.1		0,1 (R)		0.1				0.1	0.3
Silica, crystalline																
- Quartz	0.1		0.3		0.3		0.1		0,1 (R)		0,1 (R)		0.15		0.1	0.3
- Cristobalite	0.05		0.15		0.15		0.05		0,05 (R)		0,05 (R)		0.15		0.1	0.3
- Tridymite	0.05		0.15		0.15		0.05		0,05 (R)		0,05 (R)		0.15		0.1	0.3
Silicon carbide			10				10		10		10		4			
Titanium dioxide	5		10 (I)		6		10		10		10		6			
Zirconia	5		5*		5		5		5		5					

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5) Kieselguhrsoda ash flux-calcined

6) Silica vitreous

** expressed as Zr*

A4 = not classifiable as a human carcinogen

A5 = not suspected as a human carcinogen

L > 5 µm, L/Diam > 3).