

# CHEMICAL SAFETY REPORT

<b>Name of Category approach: Ferrous slags</b>					
<b>Abbreviation</b>	<b>ABS/GBS<sup>1</sup></b>	<b>BOS</b>	<b>EAF C</b>	<b>EAF S</b>	<b>SMS</b>
<b>Existing EINECS name</b>	<b>Slags, ferrous metal, blast furnace</b>	<b>Slags, steelmaking, converter</b>	<b>Slags, steelmaking, elec. furnace</b>	<b>Slags, steelmaking, elec. furnace</b>	<b>Slags, steelmaking</b>
<b>Suggested EINECS name</b>			Slags, steelmaking, elec. furnace (carbon steel production - EAF C)	Slags, steelmaking, elec. furnace (stainless/high alloy steel production - EAF S)	
<b>EINECS No.</b>	266-002-0	294-409-3	932-275-6	932-476-9	266-004-1
<b>CAS name</b>	Slags, ferrous metal, blast furnace	Slags, steelmaking, converter	Slags, steelmaking, elec. furnace	Slags, steelmaking, elec. furnace	Slags, steelmaking
<b>CAS No.</b>	65996-69-2	91722-09-7			65996-71-6
<b>Lead Registrant's Identity</b>	ThyssenKrupp Steel Europe AG	ThyssenKrupp Steel Europe AG	Badische Stahlwerke GmbH	ThyssenKrupp Nirosta GmbH	ThyssenKrupp Steel Europe AG

EC numbers:  
266-002-0  
294-409-3  
932-275-6  
932-476-9  
266-004-1

Category Approach Ferrous Slag

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All ferrous slags are almost insoluble in water and environmental media. Several methods are used to assess leaching, but the most important method is leaching with a liquid/solid ratio of 10/1 e.g. according to DIN 38414-S4. Table 5 summarizes the concentrations of toxicological relevant trace elements in leachates of slags used in tests performed on behalf of the REACH Ferrous Slag Consortium.

Only a small part of the trace substances (e.g. metals) present in solid slag is leachable. The leachates are basic (pH 10-13).

**Table 5. Water solubility of analytes of ferrous slags**

Leached substance	ABS	GGBS	BOS	EAFC	EAFS	SMS
Tested Grain size (mm)	8 - 11	<0,1	8 - 11	8 - 11	0 - 10	< 0,09
pH	11.2	11,6	11.8	11.4	12.2	11.9
Conductivity $\mu$ S/cm	570	852	1695	599	5130	2060
COD (mg/L)	32	< 15			<15	
As (mg/L)	<0.002	< 0.002	<0.002	<0.002	<0.002	0.005
Ba (mg/L)	0.120	0.05	0.055	0.353	0.193	0.930
Ca (mg/L)	59.1	92,3	49.7	49.7	549	249
Cd (mg/L)	<0.0005	< 0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Co (mg/L)	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.001
Cr total (mg/L)	<0.001	0,002	<0.001	<0.001	0.005	0.004
Cr(VI) (mg/L)			<0.010	<0.010	<0.010	<0.010
Cu (mg/L)	<0.002	< 0.002	0.010	<0.002	<0.002	<0.002
Fe (mg/L)	0.010	< 0.01	<0.010	<0.010	<0.010	0.059
Hg (mg/L)	<0.0002	< 0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Mn (mg/L)	0.006	< 0.0005	0.003	0.001	0.0009	0.015
Mo (mg/L)	0.007	0.003	0.058	0.020	0.047	0.008
Ni (mg/L)	<0.002	< 0.002	<0.002	<0.002	<0.002	<0.002
Pb (mg/L)	<0.002	<0,002	<0.002	<0.002	0.003	<0.002
Se (mg/L)	<0.005	<0,005	<0.005	0.005	<0.005	0.027
Tl (mg/L)	<0.0005	< 0.0005	<0.0005	<0.0005	<0.0005	<0.0005
V (mg/L)	0.014	0,005	0.091	0.234	<0.002	0.009
Zn (mg/L)	<0.005	<0,005	0.020	<0.005	<0.005	0.053
F (mg/L)	0.6	0,6	<0.4	<0.4	2.4	<0.4
Cl (mg/L)	<1.0	20	1.0	<1.0	4.0	<1.0
SO4 (mg/L)	52	8	3.0	3.0	134	<1.0