Yara Analytical Services **Technical Bulletin**

Heavy Metal Guidelines in Soil

Assessment of Potentially Toxic Elements

Parameter	Function of Land Use	CLEA Soil Guideline Value (SGV) mg/kg	EC Directive 86/278/EEC mg/kg
Arsenic (As)	Residential with or without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	20 500 -	- - 50
Cadmium (Cd)	Residential with plant uptake Residential with plant uptake Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	pH 6 - 1 pH 7 - 2 pH 8 - 8 30 1400 -	- - - - - 3
Chromium (Cr)	Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	130 200 5000 -	- - - 400
Mercury (Hg)	Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	8 15 480 -	- - - 1
Nickel (Ni)	Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application	50 75 5000 - - - -	- - - pH 5.0-5.4-50 pH 5.5-5.9-60 pH 6.0-7.0-75 pH 7.1 + -110
Selenium (Se)	Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	35 260 8000 -	- - - 3
Lead (Pb)	Residential with plant uptake Residential without plant uptake Commercial and Industrial Agricultural and after sewage sludge application	450 450 750 -	- - - 300
Copper (Cu)	CLEA Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application	Non available at present - - - -	- pH 5.0-5.4-80 pH 5.5-5.9-100 pH 6.0-7.0-135 pH 7.1 + -200
Zinc (Zn)	CLEA Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application Agricultural and after sewage sludge application	Non available at present - - - -	- pH 5.0-5.4-200 pH 5.5-5.9-250 pH 6.0-7.0-300 pH 7.1 + -450

Please note:-
CLEA 2002 Contaminated Land Exposure Assessment are new technical documents published by DEFRA in 2002 to replace ICRCL in the assessment of the human health risks from land contamination.

**EC Directive 86/278/EEC figures have been taken from the Code of Practise prepared to compliment the sludge (Use in Agriculture) Regulations 1989 which enforce the provisions of the EC Directive 86/278/EEC on the protection of the environment and in particular of the soil when sludge is applied to agricultural land.*

Lancrop Laboratories

Wellington Road, The Airfield,
Pocklington, York. YO42 1DN
Tel: 01759 305116
Fax: 01759 306955
Email: laboratory@phosyn.com
www.yaraphosyn.com

Certificate No: 301/93
Yara Phosyn Ltd