

## LIQUID COLLECTION ANALYSIS REPORT (GERMANY)

<u>Analysis of sampling Ecoloo-toilets</u>							
Parameter	Einheit	Probe Angabe Imad Agi	Probe Gerstungen HMT-KT 31.03.14 (Fa. Tonaco)	Probe Schweden (Fa. Tonaco)	Probe HMT-KT 30.04.14 (Fa. Henterich)	Probe HMT-FT 30.04.14 (Fa. Henterich)	
Bor	mg/l	0,5	0,09	0,31	0,276	2,53	
Calcium	mg/l	7,47	24	137	34,5	20,8	
Chlorid	mg/l	306	5333	2140	14900	5780	
Eisen	mg/l	0,5	17,3	0,7	64,7	1,5	
Magnesium	mg/l	1,13	< 1	108	1,88	< 0,50	
Manganese	mg/l	1,13	0,1	1,9	0,1	0,03	
Nitrogen (total)	mg/l	90	2960	1010	1360	1710	
pH-value	-	6,71	8,83	5,5	7,72	8,79	
Phosphorus total, P	mg/l	17,24	379	355	784	340	
potassium	mg/l	81,5	1901	1272	6110	1970	
Selenium	mg/l	0,05	0,025	0,014	< 0,006	< 0,006	
Sodium	mg/l	131,41	2620	1159	7960	3050	
Zinc	mg/l	0,5	0,19	0,66	0,29	0,09	
Conductivity	mS/m	1248	2330	1374	5510	2820	
Coliform germs	KBE/ml	< 1	0	13	< 100	< 100	
Escherichia coli	KBE/ml	0	0	0	< 10	20	
yeasts	KBE/ml	< 1	0	0	< 100	< 100	
moulds	KBE/ml	< 1	0	0	< 100	1,2x10	
Enterococcen	KBE/ml	< 10	0	0	0	0	
Clostridium perfringens	KBE/ml	30	0	0	0	2	
<u>Analysis performed by:</u>		Tonaco GmbH	Thüringer Umweltinstitut Henterich GmbH & Co.KG				
		Ringstraße 14	Kielforstweg 2-3				
		56307 Dernbach	99819 Krauthausen OT Pferdsdorf				

## LIQUID COLLECTION ANALYSIS REPORT (KENYA)



### Interglobal Safety Enterprises

Tel: 0733636109 0720548889 0723574976  
P.O. Box 3856-00506 Nyayo Stadium-NAIROBI  
Email: interglobal@gmail.com/ info@interglobalsafetysuppliers.com

#### ENVIRONMENTAL, HEALTH AND SAFETY MONITORING PROGRAMME.

##### Effluent Analysis

Results of Laboratory analysis of effluent from Ecoloo (Human Sewage Treatment latrine)

MEASURED PARAMETER	NEMA SPEC(LIMITS)	FIRST QUARTER	
		Effluent	Soil
pH at 25°C	6.0 to 9.0	6.54	5.85
Total Suspended Solids,mg/l	50	28	N/A
BOD, mg/l	500	230	N/A
COD, mg/l	500	653	N/A
Oil and Grease, mg/l	10	Nil	N/A
Total Residual Chlorine, mg/l (WBG <0.2)	0.2	Nil	nm
Total Chromium, mg/l	0.5	0.8	N/A
Total Copper as Cu, mg/l	0.5	Nil	0.5
Total Iron as Fe, mg/l	1	0.8	1.02
Pottasium K	72	nm	63.3
Calcium	200	1.44	104
Nitrate	100	16.4	1.81
Lead	1	0.001	0.001
Sulphates	28	nm	21
Phosphates	210	89.1	121
Total Coliforms	30	300	nm
Total Dissolved Solids,mg/l	1200	1180	nm
Total Zinc as Zn, mg/l	1	0.09	nm

#### DEFINITION OF TERMS

**BOD** :- (Biochemical Oxygen Demand).This is used to indicate the Biological Load of Water

**COD** :- (Chemical Oxygen Demand).This is a measured parameter to indicate the degree of pollution of a water course

**mg/l** :- This refers to an expression of concentration in milligrams per litre also referred to as parts per million p.p.m

**N/D**:-Not Detected

**N/A**:-Not Applicable

The results show that you meet the NEMA and the world bank standards.

## ANALYSIS REPORT FROM LIQUID COLLECTION TANK (SWEDEN)

### Analysis from "liquid collection tank"

(Tank for the stabilized liquid originating as urine) from one of the swedish highway administration's rest area on the E6 outside Falkenberg. (officiell data)

S44 Inomhustank, Susedalen East side

S45 Inomhustank, Susedalen West side

Samples taken from two collection tanks for the stabilized end product from the compost tanks, originally from urine after passing the bio-filter.

Samples taken from two distinctly different systems (one on the west side S45 and the other S44 from the east side of the E6 highway)

Parametrar	S44	S45
pH	8,60	9,09
Coliform bakt./mL	<10	<10
Thermostable ckoliform/mL	<10	<10
E Coli/mL	<10	<10
Fecal Strep. /mL	<10	<10
Sulft reducing clostridier /mL	30	1

The low concentration of indicator organisms show the absence of fecal presence and that the treatment process has worked. There is a small presence of Clostridium which may not have fecal origin.

Smittskyddsinstitutet,

Vatten och Miljölab

Thor Axel Stenström / Görel Allestam

Chefmikrobiolog, PhD / Biomedicinsk analytiker

## VENTILATION EXHAUST GASSES AT VENTILATION EXIT (SWEDEN)

Ventilation exhaust gases at the vent. exit			
Gas	in vent gas	Fed. Air Quality Stand.	NIOSH* workroom lim.
CO <sub>2</sub>	0.2%	None (ambient is 0.04%)	0.5% safety limit
Water vapor	Å95% relative humidity	-	-
CO	none detected (<8 ppm)	9 ppm	50 ppm
SO <sub>2</sub>	none detected (< 1 ppm)	0.03 ppm	5 ppm
hydrogen sulfide	0.5 ppm	-	10 ppm
ammonia	3 ppm	-	25 ppm
methyl mercaptan (bad odor)	none detected (<2.5 ppm)	-	-
methane gas (explosiv above 10,000)	4 ppm	-	ambient (0-4 ppm)

\*NIOSH is short for the National Institute of Occupational Safety and Health.

## LIQUID COLLECTION ANALYSIS REPORT (INDIA)

TESTS	PROTOCOL	RESULT
<b>Boron as B</b>	AOAC 18TH EDN. : 2006 by ICP-OES	BLQ[LOQ:0.5 mg/kg]
<b>CALCIUM</b>	AOAC 18TH EDN. : 2006 by ICP-OES	7.47 mg/100g
<b>CHLORIDE (CL)</b>	AOAC 915.01-16th edition	306 mg/100g
<b>IRON</b>	AOAC 18TH EDN. : 2006 by ICP-OES	BLQ[LOQ:0.5 mg/kg]
<b>MAGNESIUM</b>	AOAC 18TH EDN. : 2006 by ICP-OES	1.13 mg/100g
<b>MANGANESE</b>	AOAC 18TH EDN. : 2006 by ICP-OES	1.13 mg/100g
<b>NITROGEN</b>	AOAC 18TH EDN. : 2006 by ICP-OES	0.09 g/100g
<b>pH</b>	AOAC 18th EDN 2006 by pH meter	6.71
<b>PHOSPHOROUS</b>	AOAC 18TH EDN. : 2006 by ICP-OES	17.24 mg/100g
<b>POTASSIUM</b>	AOAC 18TH EDN. : 2006 by ICP-OES	81.50 mg/100g
<b>SELENIUM</b>	AOAC 18TH EDN. : 2006 BY ICP-MS	BLQ[LOQ:0.05 mg/kg]
<b>SODIUM</b>	AOAC 18TH EDN. : 2006 by AAS	131.41 mg/100g
<b>ZINC</b>	AOAC 18TH EDN. : 2006 by ICP-OES	BLQ[LOQ:0.5 mg/kg]
<b>CONDUCTIVITY @ 25°C</b>	APHA 22nd Edition 2012	12.46 ms/cm
<b>COLIFORMS</b>	ISO 5401-1/2002	Less than 1 cfu/ml
<b>E.coli</b>	IS 5887-1/1976 (Reaff.2005)	Absent /ml
<b>Mould Count</b>	IS 5403/1999 (Reaff.2005)	Less than 1 cfu/ml
<b>Yeast Count</b>	IS 5403/1999 (Reaff.2005)	Less than 1 cfu/ml

BLQ - Below Limit of Quantification, LOQ - Limit of Quantification.