

## Energy Grass (Phalaris arundinaceae L.)

Art. ID	NJV-94-4
Unit	50g vial
Deliverydetails	No Dangerous Good /not restricted

### Description

This Reference Material is intended for use in the control of instruments and methods in energy parameter and elemental analysis of energy grass / The reference material consists of reed canary grass (Phalaris arundinaceae L.) cultivated at Röbbäcksdalen, Västerbotten, Sweden.

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
Certified value	Ash		6,87 ± 0,086	%	SS 18 71 7 1 / ISO 11 71 (500 oC) ) / Leco-M AC 400 (55 0 oC)	
Certified value	Calorific Value		18,5 ± 0,19	MJ/kg	SS 18 71 8 2 / ISO 19 28 / DIN 5 1900 / AST M D 3286	
Certified value	Nitrogen (N)	[7727-37-9]	1,04 ± 0,068	%	CHN-analyz er / Kjeld ahl	
Certified value	Sulfur (S)	[7704-34-9]	0,132 ± 0,0097	%	SS 18 71 7 6 / SS 18 71 77 / AS TM D 4239 / Nefelome try	
Certified value	Chlorine (Cl)	[7782-50-5]	0,058 ± 0,0044	%	SS 18 71 5 4 / ASTM D 2361 / AS TM D 4208 with Ion C hromatogra phy	
Certified value	Phosphorus (P)	[7723-14-0]	0,109 ± 0,0090	%	Colorimetr	

					y / ICP-AE S / XRF
Certified value	Aluminium (Al)	[7429-90-5]	0,18 ± 0,017	%	FAAS / ICP -AES / XRF
Certified value	Calcium (Ca)	[7440-70-2]	0,21 ± 0,018	%	FAAS / ICP -AES / XRF
Certified value	Iron (Fe)	[7439-89-6]	0,106 ± 0,0063	%	FAAS / ICP -AES / XRF
Certified value	Magnesium (Mg)	[7439-95-4]	0,088 ± 0,0074	%	FAAS / ICP -AES / XRF
Certified value	Manganese (Mn)	[7439-96-5]	0,016 ± 0,0016	%	FAAS / ICP -AES / XRF
Certified value	Potassium (K)	[7440-09-7]	0,38 ± 0,021	%	FAAS / FAE S / ICP-AE S / XRF
Certified value	Silicon (Si)	[7440-21-3]	2,1 ± 0,24	%	FAAS / ICP -AES / XRF
Certified value	Arsenic (As)	[7440-38-2]	0,4 ± 0,12	mg/kg	AAS-hybrid e generati on / GFAAS / ICP-MS
Certified value	Cadmium (Cd)	[7440-43-9]	0,09 ± 0,023	mg/kg	GFAAS / IC P-MS
Certified value	Chromium (Cr)	[7440-47-3]	3,4 ± 0,68	mg/kg	FAAS / GFA AS / ICP-M S
Certified value	Copper (Cu)	[7440-50-8]	6,8 ± 0,46	mg/kg	FAAS / GFA AS / ICP-M S
Certified value	Lead (Pb)	[7439-92-1]	2,1 ± 0,43	mg/kg	GFAAS / IC P-MS
Certified value	Zinc (Zn)	[7440-66-6]	42 ± 4,2	mg/kg	FAAS / ICP -AES
Information value	Volatile matter		77,2 ± 0,77	%	SS-ISO 562 / ISO 562 / DIN 517 20
Information value	Carbon (C)	[7440-44-0]	46,6 ± 0,14	%	CHN-analyz

Information value	Hydrogen (H)	[1333-74-0]	5,7 ± 0,14	%	er CHN-analyz
Information value	Sodium (Na)	[7440-23-5]	0,03 ± 0,016	%	er FAAS / FAE S / ICP-AE S / XRF
Information value	Titanium (Ti)	[7440-32-6]	128 ± 24	mg/kg	GFAAS / IC P-AES / XR F