



Certificate of Certified Reference Material

NCS ZC11001 -- ZC11015

Rice

Reissued in 2020

NCS Testing Technology Co., Ltd

(Beijing China)

Certified Values and Extended Uncertainty

(mg/kg)

No.		Cr	TAs	Cd	Hg	Pb	As inorganic
NCS ZC 11001	Certified Value	0.06	0.23	0.24	0.005	0.12	0.18
	Extended Uncertainty	0.01	0.03	0.01	0.001	0.02	0.03
NCS ZC 11002	Certified Value	0.06	0.25	0.41	0.004	(0.15)	0.19
	Extended Uncertainty	0.01	0.03	0.02	0.001		0.03
NCS ZC 11003	Certified Value	0.05	0.16	0.32	0.004	0.07	(0.13)
	Extended Uncertainty	0.01	0.02	0.02	0.001	0.01	
NCS ZC 11004	Certified Value	0.04	0.15	0.42	0.004	0.11	0.12
	Extended Uncertainty	0.01	0.02	0.02	0.001	0.01	0.02
NCS ZC 11005	Certified Value	0.04	0.19	0.87	0.003	(0.06)	0.15
	Extended Uncertainty	0.01	0.02	0.04	0.001		0.02
NCS ZC 11006	Certified Value	0.05	0.18	0.48	0.004	0.04	0.14
	Extended Uncertainty	0.01	0.02	0.02	0.001	0.01	0.02
NCS ZC 11007	Certified Value	0.06	0.11	1.28	0.004	0.10	(0.08)
	Extended Uncertainty	0.01	0.02	0.03	0.001	0.01	
NCS ZC 11008	Certified Value	0.04	0.11	0.99	0.004	0.07	0.08
	Extended Uncertainty	0.01	0.01	0.03	0.001	0.01	0.01
NCS ZC 11009	Certified Value	0.05	0.11	1.72	0.004		0.08
	Extended Uncertainty	0.01	0.01	0.06	0.001		0.01
NCS ZC 11010	Certified Value	0.06	0.10	2.16	0.004	0.11	0.08
	Extended Uncertainty	0.01	0.01	0.06	0.001	0.02	0.01
NCS ZC 11011	Certified Value	0.05	0.16	0.62	0.004	0.064	0.13
	Extended Uncertainty	0.01	0.02	0.03	0.001	0.007	0.02
NCS ZC 11012	Certified Value	0.03	0.15	0.030	0.004	0.062	0.13
	Extended Uncertainty	0.01	0.02	0.004	0.001	0.005	0.02
NCS ZC 11013	Certified Value	0.05	0.12	0.22	0.003	0.05	(0.08)
	Extended Uncertainty	0.01	0.02	0.02	0.001	0.01	
NCS ZC 11014	Certified Value	0.05	0.12	0.11	0.003	0.037	0.089
	Extended Uncertainty	0.01	0.01	0.01	0.001	0.003	0.005
NCS ZC 11015	Certified Value	0.05	0.06	0.007	(0.002)	(0.11)	0.046
	Extended Uncertainty	0.01	0.01	0.003			0.007

Value in () is for reference only.

$$\text{Extended Uncertainty: } U = k u_{CRM}; \quad u_{CRM} = \sqrt{u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{sts}^2}; \quad u_{char} = s / \sqrt{n}$$

U_{CRM} combined uncertainty; U_{bb} between bottle uncertainty;

U_{lts} long time stability uncertainty, neglectable;

U_{sts} short time stability uncertainty, neglectable;

U_{char} standard uncertainty of analysis;

s standard deviation; n: number of data;

k cover factor; k=2 with confidence interval at 95%.

Note:

1. 9 independent laboratories take part in the analysis.
2. The sample is powder packed in bottle with size 35g/bottle.
The minimum weight for analysis is 0.5g.
3. The sample should be stored at cool, dry and dark place.
4. The sample should be dried at 105°C for 4 hours before use.
5. The certification will expire in Dec.2025. although we reserve the right to make
Change as issue revisions.

Analytical Methods

Cr: ICP-MS, GF-AAS

TAs: ICP-AES, AFS

Cd: ICP-MS, GF-AAS

Hg: ICP-MS, AFS

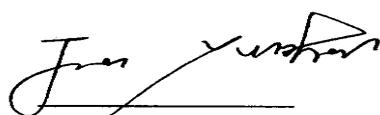
Pb: ICP-MS, GF-AAS

As inorganic: HPLC-ICP-MS, LC-AFS, AFS

GF: Graphite Furnace

AFS: Atomic Fluorescent Spectroscopy

LC: Liquid Chromatography.



Jia Yunhai
Laboratory Director