

One Touch Method	EasyPrep Plus		Xpress			Digestion Temp	Sample Prep Notes Maximum Recommended Starting Mass, Acid Type and Volume
	Ramp Time	Hold Time	8-32 vessels	33-40 vessels	33-40 vessels		
Aluminum Alloy	10	15	20	25	15	180	0.2 grams, 5 mL HCl and 5 mL H ₂ O, Add H ₂ O BEFORE HCl
Aluminum Oxide	15	20				270	0.25 grams, 6.5 mL H ₃ PO ₄ and 3.5 mL H ₂ SO ₄
Animal Tissue	15	15	20	25	15	200	1.0 grams (0.5 grams with Xpress vessels), 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Automotive Catalyst	15	30				210	0.4 grams, 10 mL HCl, 0.5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Blood - Human	15	15	20	25	15	200	2 mL, 5 mL HNO ₃ and 2 mL H ₂ O ₂ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Boric Acid HF Neutralization	15	10				170	Allow vessel to cool. Add 30 mL of 4% (w/v) boric acid solution to the vessel that contains the sample and acid. Reassemble vessel.
Carbon	15	15	20	25	15	210	0.1 grams, 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Cement	15	15				175	0.3 grams, 3 mL HNO ₃ , 6 mL HCl, 3 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Ceramic	15	15				200	0.2 grams, 5 mL HNO ₃ and 5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Ceramic, Fused Silica	10	20				180	1.0 grams, 2 mL HNO ₃ , 8 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Char - Sulfuric Acid	15	15				260	Up to 2.0 grams, 5 mL H ₂ SO ₄
Clay	15	10				200	0.2 grams, 5 mL HF, 3 mL HNO ₃ , and 1 mL HCl, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Coal - Anthracite (Step 1)	15	15				200	0.1 grams, 10 mL HNO ₃
Coal - Anthracite (Step 2)	15	15				200	Allow vessel to cool. Add 2 mL HF and 1 mL HCl to the vessel that contains the sample and acid. Reassemble vessel. If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Coal Ash	15	15				210	0.3 grams, 3 mL HNO ₃ , 3 mL HCl, and 3 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Co-Cr Alloy (Step 1)	15	15				200	0.5 grams, 5 mL HNO ₃ , 5 mL HF, and 5 mL H ₂ O, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Co-Cr Alloy (Step 2)	10	10				200	Allow vessel to cool. Add 4 mL H ₂ O ₂ to the vessel that contains the sample and acid. Reassemble vessel.

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Copper Ore	15	10	20	25	10	200	0.5 grams, 10 mL Aqua Regia (3:1 HCl:HNO ₃), This is a leach and not complete digest
Diesel Fuel	15	15				200	0.5 grams, 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Epoxy Resin	10	10				150	1.0 grams, 30 mL HNO ₃
Feed Grain	15	15	20	25	15	200	0.5 grams, 10 mL HNO ₃ and 2 mL HCl , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Fertilizer - AOAC 2006.03	15	20	20	25	20	200	1.0 grams (0.5 grams for organic matrices), 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Filter - Polycarbonate Membrane	15	15	20	25	15	200	1 filter-47 mm (0.1 grams), 10 mL HNO ₃
Filter- Cellulose Paper	15	10	20	25	10	200	1.0 grams (0.5 grams with Xpress vessels), 5 mL HNO ₃ and 5 mL H ₂ O, Add H ₂ O BEFORE HNO ₃
Filter- Membrane	15	15	20	25	15	200	1 filter- 37 mm (0.3 grams), 10 mL HNO ₃
Food	15	15	20	25	15	210	0.5 grams (wet weight), 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Hair	15	15	20	25	15	180	0.25 grams, 10 mL HNO ₃
Infant Formula	15	15	20	25	15	200	1.0 grams wet weight (0.5 grams wet weight with Xpress vessels), 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Iron Ore	15	10				200	1.0 grams, 8 mL HCl, 4 mL H ₂ O, 4 mL HNO ₃ , 4 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Iron-Chrome Alloy	15	15				210	0.25 grams, 5 mL HCl, 5 mL HF, and 5 mL HNO ₃ , If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Kerosene	15	15				200	0.5 grams, 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Limestone	15	15				200	0.5 grams, 7.5 mL HNO ₃ and 2.5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Make-up, Liquid	15	15				200	0.5 grams, 8 mL HNO ₃ and 2 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Nickel-Chrome Alloy	15	15				200	0.5 grams, 5 mL HNO ₃ , 5 mL HF, and 5 mL H ₂ O, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Nylon	15	15	20	25	15	200	0.5 grams (0.25 grams with Xpress vessels), 10 mL HNO ₃ and 2 mL H ₂ O, Add H ₂ O BEFORE HNO ₃

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Paint - Water Based	15	10				200	1.0 grams, 10 mL HNO ₃ and 2 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Paint Chip	15	15	20	25	15	180	0.5 grams, 10 mL HNO ₃
Pharmaceutical	15	15	20	25	15	210	0.1 grams, 10 mL HNO ₃
Plant Material	15	10	20	25	10	200	0.5 grams, 10 mL HNO ₃
Platinum Metal	15	20	20	25	20	180	0.5 grams, 10 mL Aqua Regia (3:1 HCl:HNO ₃),
Polyethylene	15	15	20	25	15	200	0.25 grams (0.1 grams with Xpress vessels), 10 mL HNO ₃
Polypropylene	20	15	20	25	15	210	0.25 grams (0.1 grams with Xpress vessels), 10 mL HNO ₃
Precious Metal Ore (Step 1)	15	20				200	0.1 grams, 10 mL HNO ₃ and 0.5 mL HF
Precious Metal Ore (Step 2)	10	10				180	Allow vessel to cool. Add 5 mL HCl to the vessel that contains the sample and acid. Reassemble vessel. If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method.
PVC	15	15	20	25	15	210	0.5 grams (0.25 grams with Xpress vessels), 10 mL HNO ₃ ,
ROHS	10	15	20	25	15	200	0.2 grams, 10 mL HNO ₃ and 0.02 mL H ₂ SO ₄ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Rubber	15	20	20	25	20	200	0.25 grams (0.1 grams with Xpress vessels), 10 mL HNO ₃
Sand	15	15				200	0.5 grams, 3 mL HNO ₃ , 2 mL HCl, and 5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Selenium Alloy	15	10	20	25	10	200	1.0 grams (0.5 grams with Xpress vessels), 10 mL HNO ₃ ,
Silica Sand	15	15				200	0.1 grams, 5 mL H ₂ O, 3 mL HNO ₃ , and 8 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Silicon Dioxide	10	15				180	1.0 grams, 2 mL HNO ₃ , 8 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Silicon Wafer	10	15				180	0.5 grams, 3 mL HNO ₃ and 6 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Slag	15	15				200	0.5 grams, 3 mL HNO ₃ , 2 mL HCl, and 5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Stainless Steel	15	15				200	0.5 grams, 3 mL HNO ₃ , 9 mL HCl, and 5 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run

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Straw	15	15				200	0.5 grams, 10 mL HNO ₃ and 1 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run. Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Titanium Alloy	15	30				200	0.2 grams, 5 mL HNO ₃ , 5 mL HCl, and 2 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Titanium Dioxide	15	15				210	0.25 grams, 2 mL HNO ₃ and 8 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Tungsten Carbide	15	20				230	0.25 grams, 5 mL HNO ₃ and 10 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run
Tungsten Oxide	15	20				220	1.0 grams, 2 mL HNO ₃ , 7 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run method
Urine - Human	15	15				200	4 mL, 4 mL HNO ₃ and 2 mL H ₂ O ₂ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
US EPA 3015	10	0	10	10	0	160	45 mL, 5 mL HNO ₃
US EPA 3051	2	0	2	2	0	165	0.5 grams, 10 mL HNO ₃
US EPA 3052	5,5	9,5	5,5	5,5	9,5	180	0.5 grams, 9 mL HNO ₃ and 3 mL HF, Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels. If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run.
US EPA 3546 - 100C			15	20	15	100	20 grams with 75 mL Xpress vessel (10 grams with 55 mL Xpress vessel), 12.5 mL acetone and 12.5 mL hexane
US EPA 3546 - 110C			15	20	15	110	20 grams with 75 mL Xpress vessel (10 grams with 55 mL Xpress vessel), 12.5 mL acetone and 12.5 mL hexane
US EPA 3546 - 120C			15	20	15	120	20 grams with 75 mL Xpress vessel (10 grams with 55 mL Xpress vessel), 12.5 mL acetone and 12.5 mL hexane
US EPA 3546 - 130C			15	20	15	130	20 grams with 75 mL Xpress vessel (10 grams with 55 mL Xpress vessel), 12.5 mL acetone and 12.5 mL hexane
Vitamin	15	15				220	0.5 grams, 10 mL HNO ₃ and 1 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run.
Waste Activated Sludge	15	15	20	25	15	200	0.5 grams dry weight (0.25 grams dry weight with Xpress vessels), 5 mL HNO ₃ and 5 mL H ₂ O, Add H ₂ O BEFORE HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.
Waste Motor Oil	15	15	20	25	15	200	0.5 grams (0.1 grams with Xpress vessels), 10 mL HNO ₃ , Allow samples to predigest by standing open for minimum 15 minutes before sealing vessels.

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Waste Water - NPDES	30	0				165	50 mL, 3 mL HNO ₃ and 2 mL HCl
Zeolite	15	15				210	0.5 grams, 6 mL HNO ₃ , 4 mL HCl, and 2 mL HF, If it is necessary to complex residual HF - view Boric Acid HF Neutralization One Touch method for preparation instructions and run.
	10	0	10	10	0	170	
	3	5	3	3	5	175	