

### List of Safety Data Sheets for Sale in 2019

Metal Group	Prod. #	Specific Metal Alloy SDS	Make-up of Alloy Group			Link to AFS Bookstore
Steel	SC002	High-Alloy Steel Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=sc002">https://hub.afsinc.org/nc_store?search=sc002</a>
			Chromium (Cr)	10.0–52.0	7440-47-3	
			Cobalt (Co)	0–2.5	7440-48-4	
			Copper (Cu)	0–4.0	7440-50-8	
			Iron (Fe)	Remainder	7439-89-6	
			Manganese (Mn)	0.3–6.0	7439-96-5	
			Molybdenum (Mo)	2.0–7.0	7439-98-7	
			Nickel (Ni)	3.0–72.0	7440-02-0	
			Niobium (Nb) formerly Columbium (Cb)	0–1.2	3/1/7440	
			Silicon (Si)	0–3.5	7440-21-3	
			Tantalum (Ta)	0.1–1.0	7440-25-7	
	Tungsten (W)	0.5–2.5	7440-33-7			
	SC008	Nickel-Based Steel Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC008">https://hub.afsinc.org/nc_store?search=SC008</a>
			Carbon (C)	0.07–1.00	7440-44-0	
			Chromium (Cr)	0–1.00	7440-47-3	
			Cobalt (Co)	0–2.5	7440-48-4	
			Copper (Cu)	1.25–33.0	7440-50-8	
			Iron (Fe)	2.0–11.0	7439-89-6	
			Manganese (Mn)	1.00–1.5	7439-96-5	
			Molybdenum (Mo)	26.0–33.0	7439-98-7	
			Nickel (Ni)	54.7–95.0	7440-02-0	
			Niobium (Nb) formerly Columbium (Cb)	0–1.2	3/1/7440	
			Silicon (Si)	1.00–4.5	7440-21-3	
	SC009	Carbon and Alloy Steel Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC009">https://hub.afsinc.org/nc_store?search=SC009</a>
			Carbon (C)	0–1.45	7440-44-0	
			Chromium (Cr)	0–1.5	7440-47-3	

		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0–14.0	7439-96-5	
		Molybdenum (Mo)	0–2.1	7439-98-7	
		Nickel (Ni)	0–2.0	7440-02-0	
		Silicon (Si)	0–2.25	7440-21-3	
<b>SC015</b>	<b>Chromium-Nickel Alloy Steel Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC015">https://hub.afsinc.org/nc_store?search=SC015</a>
		Chromium (Cr)	1.35–1.85	7440-47-3	
		Iron (Fe)	Remainder	7439-89-6	
		Nickel (Ni)	2.5–3.90	7440-02-0	
<b>SC016</b>	<b>Nickel-Alloy Steel Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC016">https://hub.afsinc.org/nc_store?search=SC016</a>
		Carbon (C)	0.12–1.3	7440-44-0	
		Chromium (Cr)	0–2.0	7440-47-3	
		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0.40–14.0	7439-96-5	
		Molybdenum (Mo)	0–1.20	7439-98-7	
		Nickel (Ni)	0–10.0	7440-02-0	
		Silicon (Si)	0.30–1.00	7440-21-3	
<b>SC019</b>	<b>Chromium-Alloy Steel Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC019">https://hub.afsinc.org/nc_store?search=SC019</a>
		Carbon (C)	0.20–1.35	7440-44-0	
		Chromium (Cr)	0.75–10.0	7440-47-3	
		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0.30–14.0	7439-96-5	
		Molybdenum (Mo)	0–1.75	7439-98-7	
		Nickel (Ni)	0–0.50	7440-02-0	
		Niobium (Nb) formerly Columbium (Cb)	0–1.2	3/1/7440	
		Silicon (Si)	0.20–2.00	7440-21-3	
		Sulfur (S)	0.025–1.00	7704-34-9	
		Tungsten (W)	0–1.70	7440-33-7	
		Vanadium (V)	0–1.20	1314-62-1	
<b>SC029</b>	<b>Chromium-Based Steel Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC029">https://hub.afsinc.org/nc_store?search=SC029</a>
		Carbon (C)	0.06–1.60	7440-44-0	
		Chromium (Cr)	11.5–30.0	7440-47-3	

		Cobalt (Co)	0–3.50	7440-48-4	
		Copper (Cu)	0–3.25	7440-50-8	
		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0.70–9.0	7439-96-5	
		Molybdenum (Mo)	0–2.25	7439-98-7	
		Nickel (Ni)	0–9.0	7440-02-0	
		Silicon (Si)	0.65–4.5	7440-21-3	
		Tungsten (W)	0–1.25	7440-33-7	
		Vanadium (V)	0–1.0	1314-62-1	
<b>SC049</b>	<b>High-Cobalt Steel Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC049">https://hub.afsinc.org/nc_store?search=SC049</a>
		Beryllium (Be)	0–1.0	7440-41-7	
		Carbon (C)	0.025–2.5	7440-44-0	
		Chromium (Cr)	19.0–31.0	7440-47-3	
		Cobalt (Co)	29.2–66.7	7440-48-4	
		Iron (Fe)	1.0–29.6	7439-89-6	
		Manganese (Mn)	0.15–2.5	7439-96-5	
		Molybdenum (Mo)	0–10.5	7439-98-7	
		Nickel (Ni)	1.5–37.0	7440-02-0	
		Niobium (Nb) formerly Columbium (Cb)	0–4.5	3/17440	
		Silicon (Si)	0–1.5	7440-21-3	
		Titanium (Ti)	0–2.2	7440-36-6	
<b>SC037</b>	<b>Abrasion Resistant Cast Iron (White Cast Iron) Castings</b>	<b>CHEMICAL NAME/COMMON NAME/ SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC037">https://hub.afsinc.org/nc_store?search=SC037</a>
		Carbon (C)	1.5–3.9	7440-44-0	
		Chromium (Cr)	0.5–32.0	7440-47-3	
		Copper (Cu)	<1.2	7440-50-8	
		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0.2–2.5	7439-96-5	
		Molybdenum (Mo)	0.01–3.5	7439-98-7	
		Nickel (Ni)	0.01–8.0	7440-02-0	
		Silicon (Si)	0.5–3.0	7440-21-3	
<b>SC038</b>	<b>Austenitic Gray Iron Castings</b>	<b>CHEMICAL NAME/COMMON NAME/ SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC038">https://hub.afsinc.org/nc_store?search=SC038</a>
		Carbon (C)	2.6–3.0	7440-44-0	
		Chromium (Cr)	0.1–6.0	7440-47-3	

Iron

		Copper (Cu)	0.05–7.5	7440-50-8	
		Iron (Fe)	Remainder	7439-89-6	
		Manganese (Mn)	0.5–1.5	7439-96-5	
		Nickel (Ni)	13.5–36.0	7440-02-0	
		Silicon (Si)	1.0–6.0	7440-21-3	
<b>SC039</b>	<b>Austenitic Ductile Iron Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC039">https://hub.afsinc.org/nc_store?search=SC039</a>
		Carbon (C)	2.4–3.0	7440-44-0	
		Chromium (Cr)	0.1–5.5	7440-47-3	
		Iron (Fe)	46.0–77.1	7439-89-6	
		Manganese (Mn)	0.7–2.4	7439-96-5	
		Molybdenum (Mo)	0.7–1.0	6439-98-7	
		Nickel (Ni)	18.0–38.0	7440-02-0	
		Silicon (Si)	1.0–6.0	7440-21-3	
<b>SC040</b>	<b>Malleable Iron Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC040">https://hub.afsinc.org/nc_store?search=SC040</a>
		Carbon (C)	2.0–3.0	7440-44-0	
		Chromium (Cr)	0.02–0.1	7440-47-3	
		Iron (Fe)	92.9–96.6	7439-89-6	
		Manganese (Mn)	0.1–1.50	7439-96-5	
		Silicon (Si)	0.8–2.0	7440-21-3	
<b>SC041</b>	<b>Gray Iron Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC041">https://hub.afsinc.org/nc_store?search=SC041</a>
		Carbon (C)	2.5–4.0	7440-44-0	
		Chromium (Cr)	0.01–1.5	7440-47-3	
		Copper (Cu)	0.01–1.00	7440-50-8	
		Iron (Fe)	86.3–96.2	7439-89-6	
		Manganese (Mn)	0.2–1.1	7439-96-5	
		Nickel (Ni)	0.01–1.5	7440-02-0	
		Silicon (Si)	1.0–3.5	7440-21-3	
		Tin (Sn)	0.1–0.15	7440-31-5	
<b>SC042</b>	<b>Ductile Iron Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC042">https://hub.afsinc.org/nc_store?search=SC042</a>
		Carbon (C)	3.0–4.3	7440-44-0	
		Chromium (Cr)	0.02–0.13	7440-47-3	
		Copper (Cu)	0.01–1.5	7440-50-8	

		Iron (Fe)	87.7–95.1	7439-89-6		
		Magnesium (Mg)	0.0001–0.10	7439-95-4		
		Manganese (Mn)	<1.2	7439-96-5		
		Molybdenum (Mo)	0.01–0.50	7439-98-7		
		Nickel (Ni)	0.1–2	7440-02-0		
		Silicon (Si)	1.8–4	7440-21-3		
		Tin (Sn)	0.1–0.15	7440-31-5		
Aluminum	SC047	Aluminum Castings 200 series (Except #203.2)	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC047">https://hub.afsinc.org/nc_store?search=SC047</a>
			Aluminum (Al)	balance	7429-90-5	
		Antimony (Sb)	0.20–0.30	7440-36-0		
		Chromium (Cr)	0.15–0.6	7440-47-3		
		Cobalt (Co)	0.20–0.30	7440-48-4		
		Copper (Cu)	3.5–9.0	7440-50-8		
		Iron (Fe)	0.05–1.2	1309-37-1		
		Magnesium (Mg)	0.03–6.5	1309-48-4		
		Manganese (Mn)	0.05–0.7	7339-96-5		
		Nickel (Ni)	0.03–2.3	7440-02-0		
		Silicon (Si)	0.05–3.0	7440-21-3		
		Silver (Ag)	0.40–1.0	7440-22-4		
		Titanium (Ti)	0.07–0.25	7440-32-6		
		Zinc (Zn)	0.05–0.5	1314-13-2		
		Zirconium (Zr)	0.10–0.30	7440-67-7		
	SC048	Aluminum 300 Series (with Beryllium) Castings	<b>CHEMICAL NAME/ COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC048">https://hub.afsinc.org/nc_store?search=SC048</a>
				Aluminum (Al)	balance	7429-90-5
		Beryllium (Be)	0.10–0.30	7440-41-7		
		Chromium (Cr)	0.0–0.5	7440-47-3		
		Copper (Cu)	0.03–5.0	7440-50-8		
		Iron (Fe)	0.06–1.5	1309-37-1		
		Magnesium (Mg)	0.05–1.5	1309-48-4		
		Manganese (Mn)	0.03–0.80	7439-96-5		
		Nickel (Ni)	0.0–3.0	7440-02-0		
		Silicon (Si)	4.5–23.0	7440-21-3		
		Tin (Sn)	0.0–0.35	7440-31-5		
		Titanium (Ti)	0.04–0.25	7440-32-6		
	Vanadium (V)	0.08–0.15	7440-62-2			
	Zinc (Zn)	0.0–3.0	7440-66-6			

SC050	Aluminum 100 Series Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC050">https://hub.afsinc.org/nc_store?search=SC050</a>
		Aluminum (Al)	>98.9	7429-90-5	
SC051	Aluminum 203.2 Series Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC051">https://hub.afsinc.org/nc_store?search=SC051</a>
		Aluminum (Al)	balance	7429-90-5	
		Antimony (Sb)	0.20–0.30	7440-36-0	
		Cobalt (Co)	0.20–0.30	7440-48-4	
		Copper (Cu)	4.8–5.2	7440-50-8	
		Manganese (Mn)	0.02–0.30	7439-96-5	
		Nickel (Ni)	1.3–1.7	7440-02-0	
		Titanium (Ti)	0.15–0.25	7440-32-6	
		Zirconium (Zr)	0.10–0.30	7440-67-7	
SC052	Aluminum 300 Series (without Beryllium) Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC052">https://hub.afsinc.org/nc_store?search=SC052</a>
		Aluminum (Al)	62–95	7429-90-5	
		Chromium (Cr)	0.0–0.50	7440-47-3	
		Copper (Cu)	0.03–5.0	7440-50-8	
		Iron (Fe)	0.06–1.5	1309-37-1	
		Magnesium (Mg)	0.05–1.5	1309-48-4	
		Manganese (Mn)	0.03–0.80	7449-96-5	
		Nickel (Ni)	0.0–3.0	7440-02-0	
		Silicon (Si)	4.5–23.0	7440-21-3	
		Tin (Sn)	0.0–0.25	7440-31-5	
		Titanium (Ti)	0.04–0.25	7440-32-5	
		Vanadium (V)	0.08–0.15	7440-62-2	
		SC055	Aluminum 400 Series Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	
Aluminum (Al)	Balance			7429-90-5	
Chromium (Cr)	<0.25			7440-47-3	
Copper (Cu)	0.05–1.0			7440-50-8	
Iron (Fe)	0.12–1.30			1309-37-1	
Nickel (Ni)	0.0–0.50			7440-02-0	
Silicon (Si)	3.3–13.0			7440-21-3	

	<b>SC056</b>	<b>Aluminum 500 Series Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC056">https://hub.afsinc.org/nc_store?search=SC056</a>	
			Aluminum (Al)	Balance	7429-90-5		
			Chromium (Cr)	<0.25	7440-47-3		
			Copper (Cu)	0.15–0.40	7440-50-8		
			Iron (Fe)	0.1–1.8	1309-37-1		
			Magnesium (Mg)	0.8–10.6	1309-48-4		
			Manganese (Mn)	0.10–0.25	7439-96-5		
			Nickel (Ni)	0.05–0.40	7440-02-0		
			Silicon (Si)	0.1–2.2	7440-21-3		
			Titanium (Ti)	0.10–0.25	7440-32-6		
			Zinc (Zn)	0.05–2.20	1314-13-2		
		<b>SC057</b>	<b>Aluminum 700 Series Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC057">https://hub.afsinc.org/nc_store?search=SC057</a>
				Aluminum (Al)	Balance	7429-90-5	
				Chromium (Cr)	0.0–0.60	7440-47-3	
				Copper (Cu)	0.10–2.0	7440-50-8	
				Iron (Fe)	0.10–1.4	1309-37-1	
				Magnesium (Mg)	0.3–2.4	1309-48-4	
				Manganese (Mn)	0.40–0.60	7439-96-5	
				Nickel (Ni)	<0.15	7440-02-0	
				Titanium (Ti)	0.15–0.25	7440-32-6	
				Zinc (Zn)	2.70–8.0	1314-13-2	
		<b>SC058</b>	<b>Aluminum 800 Series Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC058">https://hub.afsinc.org/nc_store?search=SC058</a>
				Aluminum (Al)	Balance	7429-90-5	
				Copper (Cu)	0.7–6.4	7440-50-8	
				Magnesium (Mg)	0.10–0.90	1309-48-4	
				Nickel (Ni)	0.3–1.5	7440-02-0	
				Silicon (Si)	0.05–4.5	7440-21-3	
				Tin (Sn)	5.5–7.0	7440-31-5	
<b>Copper</b>	<b>SC013</b>	<b>Copper Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC013">https://hub.afsinc.org/nc_store?search=SC013</a>	
			Copper (Cu) Metal	99.7% (min)–99.95%*	7440-50-8		

		*Trace amounts of Boron and Silver make-up the remainder			
<b>SC014</b>	<b>High Copper Alloy (Low Beryllium) Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC014">https://hub.afsinc.org/nc_store?search=SC014</a>
		Beryllium (Be) Metal	0.0–0.1	7440-41-7	
		Chromium (Al) Metal	0.0–1.5	7440-47-3	
		Cobalt (Co) Metal	0.0–1.0	7440-48-4	
		Copper (Cu) Metal	95.1–98.5	7440-50-8	
		Nickel (Ni) Metal	0.0–3.0	7440-02-0	
		Silver (Ag) Metal	0.0–1.2	7440-22-4	
<b>SC017</b>	<b>High Copper Alloy (High Beryllium) Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC017">https://hub.afsinc.org/nc_store?search=SC017</a>
		Beryllium (Be) Metal	0.3–2.85	7440-41-7	
		Chromium (Al) Metal	0.0–0.1	7440-47-3	
		Cobalt (Co) Metal	0.0–2.7	7440-48-4	
		Copper (Cu) Metal	94.2–96.5	7440-50-8	
		Nickel (Ni) Metal	0.0–2.0	7440-02-0	
		Silicon (Si) Metal	0.0–0.35	7440-21-3	
		Silver (Ag) Metal	0.0–1.2	7440-22-4	
<b>SC018</b>	<b>Red Brass (Low Lead) Castings/Copper-Tin-Zinc Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC018">https://hub.afsinc.org/nc_store?search=SC018</a>
		Cobalt (Co) Metal	0.0–2.0	7440-48-4	
		Copper (Cu) Metal	83.0–92.0	7440-50-8	
		Lead (Pb)	1.0–5.5	7439-92-1	
		Nickel (Ni) Metal	0.0–2.0	7440-02-0	
		Tin (Sn) Metal	0.0–6.5	7440-31-5	
		Zinc (Zn) Metal	1.0–12.0	7440-66-6	
<b>SC020</b>	<b>Leaded Red Brass/Copper-Tin-Zinc-Leaded/Leaded Semi-Red Brass /Semi-Red Brass Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC020">https://hub.afsinc.org/nc_store?search=SC020</a>
		Antimony (Sb) Metal	0.0–0.8	7440-36-0	
		Cobalt (Co) Metal	0.5–2.0	7440-48-4	
		Copper (Cu) Metal	75.0–94.0	7440-50-8	
		Iron (Fe) Metal	0.0–0.8	1309-37-1	
		Lead (Pb) Metal	0.5–8.0	7439-92-1	



		Nickel (Ni) Metal	0.5–2.0	7440-02-0	
		Tin (Sn) Metal	0.0–6.0	7440-31-5	
		Zinc (Zn) Metal	1.0–17.0	7440-66-6	
<b>SC021</b>	<b>Yellow Brass/Leaded Yellow Brass Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC021">https://hub.afsinc.org/nc_store?search=SC021</a>
		Cobalt (Co) Metal	<0.1–1.0	7440-48-4	
		Copper (Cu) Metal	57.0–75.0	7440-50-8	
		Lead (Pb) Metal	0.20–3.8	7439-92-1	
		Nickel (Ni) Metal	<0.1–1.0	7440-02-0	
		Tin (Sn) Metal	0.5–2.0	7440-31-5	
		Zinc (Zn) Metal	20.0–41.0	7440-66-6	
<b>SC022</b>	<b>Manganese-Bronze/Leaded Manganese Bronze Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC022">https://hub.afsinc.org/nc_store?search=SC022</a>
		Aluminum (Al) Metal	0.5–7.5	7429-90-5	
		Cobalt (Co) Metal	0.0–6.0	7440-48-4	
		Copper (Cu) Metal	54.0–68.0	7440-50-8	
		Iron (Fe) Metal	0.4–4.0	1309-37-1	
		Lead (Pb) Metal	<0.2–2.0	7439-92-1	
		Manganese (Mn) Metal	0.1–23.0	7439-96-5	
		Nickel (Ni) Metal	0.0–6.0	7440-02-0	
		Tin (Sn) Metal	<0.2–2.5	7440-31-5	
		Zinc (Zn) Metal	17.1–42.0	7440-66-6	
<b>SC023</b>	<b>Copper-Silicon/Silicon Bronzes/Silicon Brass Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC023">https://hub.afsinc.org/nc_store?search=SC023</a>
		Cobalt (Co) Metal	0.0–0.2	7440-48-4	
		Copper (Cu) Metal	63.0–95.0	7440-50-8	
		Lead (Pb) Metal	0.0–1.0	7439-92-1	
		Manganese (Mn) Metal	0.0–1.5	7439-96-5	
		Nickel (Ni) Metal	0.0–0.2	7440-02-0	
		Silicon (Si) Metal	0.8–5.5	7440-21-3	
		Zinc (Zn) Metal	1.0–40.0	7440-66-6	
<b>SC024</b>	<b>Copper-Tin/Tin Bronze Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC024">https://hub.afsinc.org/nc_store?search=SC024</a>
		Cobalt (Co) Metal	0.0–2.0	7440-48-4	

		Copper (Cu) Metal	79.0–94.0	7440-50-8	
		Lead (Pb) Metal	0.0–0.5	7439-92-1	
		Nickel (Ni) Metal	0.0–2.0	7440-02-0	
		Phosphorus, yellow (P) Metal	<0.5–1.2	12185-10-3	
		Tin (Sn) Metal	6.0–20.0	7440-31-5	
		Zinc (Zn) Metal	0.0–5.0	7440-66-6	
<b>SC025</b>	<b>Copper-Tin-Lead/Leaded Tin Bronze Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC025">https://hub.afsinc.org/nc_store?search=SC025</a>
		Cobalt (Co) Metal	0.0–4.0	7440-48-4	
		Copper (Cu) Metal	78.0–90.0	7440-50-8	
		Lead (Pb) Metal	0.3–6.0	7439-92-1	
		Nickel (Ni) Metal	0.0–4.0	7440-02-0	
		Phosphorus, Yellow (P) Metal	<0.5–1.5	12185-10-3	
		Tin (Sn) Metal	4.5–17.0	7440-31-5	
		Zinc (Zn) Metal	0.0–5.0	7440-66-6	
<b>SC026</b>	<b>Copper-Tin-Lead/High-Leaded Tin Bronze Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC026">https://hub.afsinc.org/nc_store?search=SC026</a>
		Antimony (Sb) Metal	0.0–0.8	7440-36-0	
		Cobalt (Co) Metal	0.0–1.0	7440-48-4	
		Copper (Cu) Metal	65.0–87.7	7440-50-8	
		Lead (Pb) Metal	2.0–34.0	7439-92-1	
		Nickel (Ni) Metal	0.0–1.0	7440-02-0	
		Phosphorus, Yellow (P) Metal	<0.5–1.5	12185-10-3	
		Tin (Sn) Metal	3.0–14.0	7440-31-5	
		Zinc (Zn) Metal	0.0–4.0	7440-66-6	
<b>SC027</b>	<b>Copper-Tin-Nickel/Nickel-Tin-Bronze Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC027">https://hub.afsinc.org/nc_store?search=SC027</a>
		Cobalt (Co) Metal	0.0–6.0	7440-48-4	
		Copper (Cu) Metal	79.0–90.0	7440-50-8	
		Lead (Pb) Metal	0.1–6.0	7439-92-1	
		Nickel (Ni) Metal	4.0–6.0	7440-02-0	
		Tin (Sn) Metal	4.0–6.0	7440-31-5	
		Zinc (Zn) Metal	1.0–6.0	7440-66-6	

SC028	Copper-Aluminum-Iron/Aluminum Bronze/Copper-Aluminum-Iron-Nickel Alloy Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC028">https://hub.afsinc.org/nc_store?search=SC028</a>
		Aluminum (Al) Metal	0.50–11.5	7429-90-5	
		Cobalt (Co) Metal	0.0–5.5	7440-48-4	
		Copper (Cu) Metal	71.0–91.5	7440-50-8	
		Iron (Fe) Metal	0.5–5.0	1309-37-1	
		Lead (Pb) Metal	0.0–0.25	7439-92-1	
		Manganese (Mn) Metal	0.0–14.0	7439-96-5	
		Nickel (Ni) Metal	0.0–5.5	7440-02-0	
		Silicon (Si) Metal	0.0–3.3	7440-21-3	
		Zinc (Zn) Metal	0.05–2.0	7440-66-6	
SC032	Copper-Nickel-Iron/Copper-Nickel (with Beryllium) Alloy Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC032">https://hub.afsinc.org/nc_store?search=SC032</a>
		Beryllium (Be) Metal	0.4–1.2	7440-41-7	
		Cobalt (Co) Metal	0.0–2.5	7440-48-4	
		Copper (Cu) Metal	62.7–69.8	7440-50-8	
		Iron (Fe) Metal	0.4–1.1	1309-37-1	
		Lead (Pb) Metal	0.0–0.01	7439-92-1	
		Manganese (Mn) Metal	0.7–1.0	7439-96-5	
		Nickel (Ni) Metal	29.0–33.0	7440-02-0	
SC033	Copper-Nickel-Zinc (without Beryllium) Alloy Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC033">https://hub.afsinc.org/nc_store?search=SC033</a>
		Cobalt (Co) Metal	Included w/Ni%, Nickel and Cobalt in combination make-up 11.0%–27.0% of the Casting	7440-48-4	
		Copper (Cu) Metal	53.0–67.0	7440-50-8	
		Iron (Fe) Metal	<1.5	7439-92-1	
		Lead (Pb) Metal	1.0–11.0	7439-92-1	
		Manganese (Mn) Metal	0.0–1.0	7439-96-5	
		Nickel (Ni) Metal	11.0–27.0	7440-02-0	
		Tin (Sn) Metal	1.5–5.5	7440-31-5	
		Zinc (Zn) Metal	1.0–25.0	7440-66-6	

SC034	Copper-Lead Castings/Leaded Copper Alloy Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC034">https://hub.afsinc.org/nc_store?search=SC034</a>			
		Copper (Cu) Metal	56.5–79.0	7440-50-8				
		Iron (Fe) Metal	0.0–1.0	1309-37-1				
		Lead (Pb) Metal	21.0–33.0	7439-92-1				
		Nickel (Ni) Metal	0.0–0.50	7440-02-0				
		Tin (Sn) Metal	0.0–2.0	7440-31-5				
		Silver (Ag) Metal	0.0–1.5	7440-22-4				
		Zinc (Zn) Metal	0.0–0.50	7440-66-6				
		SC045	Copper-Nickel-Iron/Copper-Nickel Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>		<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC045">https://hub.afsinc.org/nc_store?search=SC045</a>
				Beryllium (Be) Metal		0.4–0.7	7440-41-7	
Cobalt (Co) Metal	9.0–33.0			7440-48-4				
Copper (Cu) Metal	65.0–87.0			7440-50-8				
Iron (Fe) Metal	0.25–1.8			1309-37-1				
Manganese (Mn) Metal	0.05–1.5			7439-96-5				
Nickel (Ni) Metal	9.0–3.0			7440-02-0				
Niobium (Nb) / formerly Columbium (Cb) Metal	0.1–1.5			3/1/7440				
Tin (Sn) Metal	7.5–8.5			7440-31-5				
SC059	Red Brass (Low Lead)/Selenium-Bismuth Alloy Castings (SebiLOY®)	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC059">https://hub.afsinc.org/nc_store?search=SC059</a>			
		Bismuth (Bi) Metal	0.5–3.5	7440-69-9				
		Cobalt (Co) Metal	(Included with Ni%)	7440-48-4				
		Copper (Cu) Metal	85.0–91.0	7440-50-8				
		Lead (Pb) Metal	0.25 (max)	7439-92-1				
		Nickel (Ni) Metal	1.0 (max) Includes Co%	7440-02-0				
		Selenium (Se) Metal	0.35–1.2	7782-49-2				
		Tin (Sn) Metal	2.0–6.5	7440-31-5				
		Zinc (Zn) Metal	2.0–9.0	7440-66-6				
SC061	Magnesium-Aluminum-Zinc Alloy Castings	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC061">https://hub.afsinc.org/nc_store?search=SC061</a>			
		Aluminum (Al) Metal	2.0–14.0	7429-90-5				

Magnesium

		Magnesium (Mg) Metal	Balance	7439-95-4	
		Manganese (Mn) Metal	0.0–1.0	7439-96-5	
		Zinc (Zn) Metal	0.0–7.0	7440-66-6	
<b>SC062</b>	<b>Magnesium-Yttrium-Rare Earth Metals- Zirconium Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC062">https://hub.afsinc.org/nc_store?search=SC062</a>
		Magnesium (Mg) Metal	Balance	7439-95-4	
		Total Rare Earth (TRE) Metals	1.0–6.00	Various	
		Yttrium (Y) Metal	1.0–10.0	7440-65-5	
		Zirconium (Zr) Metal	0.0–3.00	7440-67-7	
<b>SC063</b>	<b>Magnesium-Thorium-Zinc-Zirconium Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC063">https://hub.afsinc.org/nc_store?search=SC063</a>
		Magnesium (Mg) Metal	Balance	7439-95-4	
		Thorium (Th) Metal	1.0–6.0	7440-29-1	
		Zinc (Zn) Metal	0.0–9.0	7440-66-6	
		Zirconium (Zr) Metal	0.0–5.0	7440-67-7	
<b>SC064</b>	<b>Magnesium-Zinc-Rare Earth Metals-Zirconium Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC064">https://hub.afsinc.org/nc_store?search=SC064</a>
		Copper (Cu) Metal	1.0–5.0	7440-50-8	
		Magnesium (Mg) Metal	Balance	7439-95-4	
		Manganese (Mn) Metal	0.0–1.00	7439-96-5	
		Total Rare Earth (TRE) Metals	0.0–6.00	Various	
		Zinc (Zn) Metal	0.0–10.0	7440-66-6	
<b>SC065</b>	<b>Magnesium-Silver-Rare Earth Metals- Zirconium Alloy Castings</b>	<b>CHEMICAL NAME/COMMON NAME/SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC065">https://hub.afsinc.org/nc_store?search=SC065</a>
		Copper (Cu) Metal	0.0–1.0	7440-50-8	
		Magnesium (Mg) Metal	Balance	7439-95-4	
		Total Rare Earth (TRE) Metals	1.0–5.0	Various	
		Silver (Ag) Metal	1.0–5.0	7440-22-4	

			Thorium (Th) Metal	0.0–5.0	7440-29-1	
			Zirconium (Zr) Metal	0.0–3.0	7440-67-7	
Sand	SC066	Spent Foundry Sand (Silica-based spent sand from iron, steel, and aluminum foundries only.)	<b>CHEMICAL NAME/ COMMON NAME/ SYNONYM</b>	<b>Wt %</b>	<b>CAS NUMBER</b>	<a href="https://hub.afsinc.org/nc_store?search=SC066">https://hub.afsinc.org/nc_store?search=SC066</a>
			Crystalline silica (quartz)	>90	14808-60-7	
			Aluminum	0–2	7429-90-5	
			Aluminum oxide	0–2	1344-28-1	
			Calcium oxide	0–6	1305-78-8	
			Iron	0.1–6.4	7439-89-6	
			Iron oxide	0.1–6.4	1309-37-1	