

BULK MATERIAL DENSITY TABLE

Material Description	Loose Bulk Density #/Ft. ³
Alfalfa Meal	14-22
Alfalfa Pellets	41-43
Alfalfa Seed	10-15
Almonds, Broken	28-30
Almonds, Whole Shelled	28-30
Alum, Fine	45-50
Alum, Lumpy	50-60
Alumina Fines	35
Alumina	50-65
Alumina, Sized or Briquette	65
Aluminum Chips, Oily	7-15
Aluminum Chips, Dry	7-15
Aluminum Hydrate	13-20
Aluminum Ore (See Bauxite)	-
Aluminum Oxide	60-120
Aluminum Silicate (Andalusite)	49
Aluminum Chloride, Crystalline	45-52
Aluminum Nitrate	45-62
Aluminum Sulfate	45-58
Ammonium Chloride	45-52
Ammonium Nitrate	45
Ammonium Sulfate, Granular	45-58
Arsenate of Lead (See Lead Arsenate)	-
Arsenic, Pulverized	30
Arsenic Oxide (Arsenolite)	100-120
Asbestos, Rock (Ore)	81
Asbestos, Shred	20-40
Ash, Black Ground	105
Ashes, Coal, Dry -1/2"	35-45
Ashes, Coal, Dry 3" & under	35-40
Ashes, Coal, Wet -1/2"	45-50
Ashes, Coal, Wet 3" & under	45-50
Ashes, Fly (See Fly Ash)	-
Ashes, Gas Produced	78
Asphalt Binder	80-85
Asphalt, Crushed, -1/2"	45
Bakelite, Fine	30-45
Baking Powder	40-55
Baking Soda (Sodium Bicarbonate)	40-55
Barite (Barium Sulfate) +1/2"	120-180
Barite, Powder	120-180
Barium Carbonate	72

Material Description	Loose Bulk Density #/Ft. ³
Bark, Wood, Refuse	10-20
Barley, Fine, Ground	24-38
Barley, Malted	31
Barley, Meal	28
Barley, Scoured	41
Barley, Whole	36-48
Basalt	80-105
Bauxite, Dry, Ground	68
Bauxite, Crushed, -3"	75-85
Bauxite, Mine Run	66-90
Beans, Castor, Whole Shelled	36
Beans, Castor, Meal	35-40
Beans, Navy, Dry	48
Beans, Navy, Steeped	60
Beets, Whole	48
Bentonite, Crude	35-40
Benzene Hexachloride	56
Bicarbonate of Soda (See Baking Soda)	-
Blood, Dried	35-45
Blood, Ground	30
Bones, Whole	35-50
Bones, Crushed	35-50
Bones, Ground	50
Bonemeal	50-60
Bone Ash (Tricalcium Phosphate)	40-50
Borate of Lime	60
Borax 2"-3" Lump	60-70
Borax 1-1/2"-2" Lump	55-60
Borax Screening -1/2"	55-60
Borax, Fine	45-55
Boric Acid, Fine	55
Boron	75
Bran, Rice-Rye-Wheat	16-20
Bread Crumbs	20-25
Brewer's Grain, Spent, Dry	14-30
Brewer's Grain, Spent, Wet	55-60
Brick, Hard Burned	125
Brick, Soft Burned	100
Brick, Ground -1/8"	100-120
Bronze Chips	30-50
Buckwheat	37-42
Calcine, Flour	75-85

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Material Description	Loose Bulk Density #/Ft. ³
Calcium Acetate	125
Calcium Carbide (Crushed)	70-80
Calcium Carbonate (See Limestone)	-
Calcium Fluoride (See Fluorspar)	-
Calcium Hydrate (See Lime, Hydrated)	-
Calcium Hydroxide (See Lime, Hydrated)	-
Calcium Lactate	26-29
Calcium Carbonate	90-100
Calcium Oxide (See Lime, Unslaked)	40-50
Calcium Phosphate	-
Calcium Sulfate (See Gypsum)	-
Carbon, Activated, Dry, Fine	8-20
Carbon Black, Pelleted	20-25
Carbon Black, Powder	4-7
Carborundum	100
Cashew Nuts	32-37
Cast Iron, Chips	130-200
Caustic Soda	88
Caustic Soda, Flakes	47
Celite (See Diatomaceous Earth)	-
Cement, Clinker	75-95
Cement, Rock (See Limestone)	-
Cement, Portland	94
Cement, Aerated (Portland)	60-75
Cement, Mortar	133
Chalk, Crushed	75-95
Chalk, Pulverized	67-75
Charcoal, Lumps	18-28
Charcoal, Ground	18-28
Chips, Hogged Fuel	15-25
Chrome Ore	125-140
Cinders, Blast Furnace	57
Cinders, Coal	40
Clay (See Bentonite, Diatomaceous Earth, Fuller's Earth, Kaolin & Marl)	-
Clay, Calcined	80-100
Clay, Brick, Dry, Fines	100-120
Clay, Ceramic, Dry, Fines	60-80
Clay, Dry, Lumpy	60-75
Clinker, Cement (See Cement, Clinker)	-

Material Description	Loose Bulk Density #/Ft. ³
Clover Seed	48
Coal, Anthracite (River & Culm)	60
Coal, Anthracite, Sized -1/2"	55-60
Coal, Bituminous, (Mined 50M & Under)	50-54
Coal, Bituminous, Mined	40-60
Coal, Bituminous, Mined, Sized	45-55
Coal, Bituminous, Mined, Run of Mine	45-55
Coal, Bituminous, Mined, Slack	43-50
Coal, Bituminous, Stripping, Not Cleaned	50-60
Coal, Lignite	40-45
Coal, Char	24
Cocoa, Beans	30-40
Cocoa, Nibs	35
Cocoa, Powdered	30-35
Coconut, Shredded	20-22
Coffee, Green Bean	25-35
Coffee, Ground, Dry	25
Coffee, Ground, Wet	35-45
Coffee, Roasted, Bean	22-26
Coffee, Soluble	19
Coke, Loose	25-35
Coke, Petroleum, Calcined	3-45
Coke, Breeze, -1/4"	25-35
Compost	30-50
Concrete, Cinder	90-100
Concrete, 2 Inch Slump	100-150
Concrete, 4 Inch Slump	110-150
Concrete, 6 Inch Slump	110-150
Concrete, In Place, Stone	130-150
Concrete, Pre-Mix, Dry	85-120
Copper Ore	120-150
Copper Ore, Crushed	100-150
Copper Sulfate (Bluestone)	75-85
Copperas (See Ferrous Sulfate)	-
Copra Cake, Ground	40-45
Copra Cake, Lumpy	25-30
Copra, Lumpy	22
Copra, Meal	40-45

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Material Description	Loose Bulk Density #/Ft. ³
Cork, Fine Ground	12-15
Cork, Granulated	12-15
Corn, Cracked	45-50
Corn Cobs, Ground	17
Corn Cobs, Whole	12-15
Corn, Ear	56
Corn, Germs	21
Corn, Grits	40-45
Corn Oil Cake	25
Corn, Seed	45
Corn, Shelled	45
Corn, Sugar	30-35
Cornmeal	38-40
Cottonseed Cake, Crushed	40-45
Cottonseed Cake, Lumpy	40-45
Cottonseed, Dry, Delinted	35
Cottonseed, Dry, Not Delinted	18-25
Cottonseed Flakes	20-25
Cottonseed Hulls	12
Cottonseed Meal, Extracted	35-40
Cottonseed Meal, Expeller	25-30
Cottonseed Meats, Dry	40
Cottonseed Meats, Rolled	35-40
Cracklings, Crushed	40-50
Cryolite, Dust	75-90
Cryolite, Lumpy	90-100
Cullet, Fine	80-120
Cullet, Lump	80-120
Culm (See Coal, Anthracite)	-
Cupric Sulfate (See Copper Sulfate)	-
Detergent. (See Soap, Detergent)	-
Diatomaceous Earth	11-14
Dicalcium Phosphate	40-50
Disodium Phosphate	25-31
Distiller's Grain, Spent, Dry	30
Distiller's Grain, Spent, Wet	40-60
Dolomite, Crushed	80-100
Dolomite, Lumpy	90-100
Earth, As Excavated, Dry	70-80
Earth, Loam, Dry, Loose	76
Earth, Wet, Containing Clay	100-110

Material Description	Loose Bulk Density #/Ft. ³
Ebonite, Crushed	65-70
Epsom Salts	40-50
Emery	230
Face Powder (See Talcum Powder)	-
Feldspar, Ground	65-80
Feldspar, Lumps	90-100
Feldspar, Powder	100
Feldspar, Screenings	70-85
Ferrous Sulfate	60-70
Ferrous Sulfide, 1/2 Inch	120-135
Ferrous Sulfide, Powder	105-120
Fish Meal	35-40
Fish Scrap	40-50
Flaxseed	45
Flaxseed Cake (Linseed Cake)	48-50
Flaxseed Meal (Linseed Meal)	25
Flour, Wheat	35-40
Flue Dust, Blast Furnace	110-125
Flue Dust, Basic Oxygen Furnace	45-60
Flue Dust, Boiler House, Dry	35-40
Fluorspar, Fine (Calcium Fluoride)	80-100
Fluorspar, Lumps, 1-1/2 to 3 Inch	90-100
Fluorspar, Screenings, 1/2 Inch	85-105
Fly Ash	30-45
Foundry Refuse, Old Sand Cores, etc.	70-100
Foundry Sand, Dry (See Sand)	-
Fuller's Earth, Dry, Raw	30-35
Fuller's Earth, Oily, Spent	60-65
Fuller's Earth, Burned or Roasted	40
Galena (See Lead Sulfide)	-
Gelatin, Granulated	32
Gilsonite	37
Glass, Batch	80-100
Glass, Broken (See Cullet)	-
Glue, Ground	40
Glue, Pearl	40
Glue, Vegetable, Powdered	40
Gluten Meal	40
Grain, Brewers (See Brewer's Grain)	-

BULK MATERIAL DENSITY TABLE

Material Description	Loose Bulk Density #/Ft. ³
Grain, Distillery, Spent, Dry (See Brewer's Grain)	-
Grain, Distillery, Spent, Wet (See Brewer's Grain)	-
Grains, (See Specific Grain)	-
Granite, Broken	95-100
Granite, Lumps, 1-1/2 to 3 Inch	85-90
Granite, Screenings, 1/2 Inch	80-90
Grape Pomace	15-20
Graphite, Flake	40
Graphite, Flour	28
Graphite, Ore	65-75
Grass Seed	10-12
Gravel, Bank Run	90-100
Gravel, Dry, Sharp	90-100
Gravel, Pebbles	90-100
Gypsum, Calcined	55-60
Gypsum, Calcined, Powdered	60-80
Gypsum Dust, Aerated	60-70
Gypsum Dust, Nonaerated	93
Gypsum, Lumps, 1-1 /2 to 3 Inch	70-80
Gypsum, Raw, 1 Inch	70-80
Gypsum, Screenings, 1/2 Inch	70-80
Guano, Dry	70
Hominy, Dry	37
Hops, Spent, Dry	35
Hops, Spent, Wet	50-55
Ilmenite Ore	140-160
Iron Borings, Machine Shop	125
Iron Ore	100-200
Iron Ore, Concentrates	120-180
Iron Ore, Crushed	135-150
Iron Oxide, Pigment	25
Iron Oxide, Mill Scale	75
Iron Pyrites (See Ferrous Sulfide)	-
Iron Sulfate (See Ferrous Sulfate)	-
Iron Sulfide (See Ferrous Sulfide)	-
Iron Vitriol (See Ferrous Sulfate)	-
Kaffir Corn	40-45
Kaolin Clay, 3 Inch and Under	63
Kaolin Clay, Talc, 100 Mesh	42-56

Material Description	Loose Bulk Density #/Ft. ³
Kryolith (See Cryolite)	-
Lactose	32
Lamp Black (See Carbon Black)	-
Lead Arsenate	72
Lead Arsenite	72
Lead Carbonate	240-260
Lead Ore, 1/8 Inch	200-270
Lead Ore, 1/2 Inch	180-230
Lead Oxide (Red Lead) 100 Mesh	30-150
Lead Oxide (Red Lead) 200 Mesh	30-180
Lead Sulfide, 100 Mesh	240-260
Lignite, Air Dry (See Coal, Lignite)	-
Lime, Ground, 1/8 Inch and Under	60-65
Lime, Hydrated, 1/8 Inch and Under	40
Lime, Hydrated, Pulverized	32-40
Lime, Pebble	53-56
Limestone, Agricultural, 1/8 Inch and Under	68
Limestone, Crushed	85-90
Limestone, Dust	55-95
Lindane (See Benzene Hexachloride)	-
Linseed (See Flaxseed)	-
Litharge (See Lead Oxide)	-
Litharge, Pulverized (Lead Oxide)	200-250
Lithopone	45-50
Magnesium Chloride	33
Magnesium Sulphate (See Epsom Salts)	-
Malt, Dry, Ground	20
Malt, Dry, Whole	20-30
Malt, Meal	36-40
Malt, Sprouts	13-15
Malt, Wet or Green	60-65
Manganese Dioxide	70-85
Manganese Ore	125-140
Manganese Oxide	120
Manganese Sulphate	70
Marble, Crushed	80-95
Marl (Clay)	80
Meat, Ground	50-55

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Material Description	Loose Bulk Density #/Ft. ³
Meat, Scrap With Bone	40
Mica, Flakes	17-22
Mica, Ground	13-15
Mica, Pulverized	13-15
Milk, Dried, Flake	5-6
Milk, Malted	30-35
Milk, Powdered	20-45
Milk, Whole, Powdered, Dry	20-36
Milk Sugar	32
Mill Scale	120-125
Milo	40-45
Milo, Ground	32-36
Molybdite, Powder	107
Mortar, Wet	150
Muriate of Potash (See Potash Muriate)	-
Mushrooms	24
Mustard Seed	45
Monosodium Phosphate	50
Naphthalene Flakes	45
Niacin (Nicotinic Acid)	35
Nickel (Cobalt Sulphate Ore)	80-150
Oats	26
Oats, Crimped	19-26
Oats, Crushed	22
Oats, Rolled	35
Oat Flour	19-24
Oat Hulls	8-12
Oil Cake	45-50
Orange Peel, Dry	15
Oxalic Acid, Crystals	60
Oyster Shells, Ground	50-60
Oyster Shells, Whole	80
Paper Pulp (4% or Less)	62
Paper Pulp (6% to 15%)	60-62
Peanuts, Raw, Uncleaned, Unshelled	15-20
Peanuts, Clean, In Shell	15-20
Peanuts, Shelled	35-45
Peanut Meal	30
Peas, Dried	45-50
Perlite, Expanded	8-12
Perlite, Expanded, Powder	4-12
Petroleum Coke (See Coke)	-

Material Description	Loose Bulk Density #/Ft. ³
Phosphate Acid Fertilizer	60
Phosphate Rock, Broken	75-85
Phosphate Rock, Pulverized	60
Phosphate Sand	90-100
Phosphate, Triple Super, Ground	50-55
Phosphate Disodiurn (See Sodium Phosphate)	-
Plaster of Paris (See Gypsum)	-
Polyethylene Resin, Pellets	30-35
Polystyrene, Beads	40
Polyvinyl Chloride, Pellets	20-30
Polyvinyl Chloride, Powder	20-30
Potash (Muriate) Dry	70
Potash (Muriate) Mine Run	75
Potash Salt (Sylvite)	80
Potassium Carbonate	51
Potassium Chloride, Pellets	120-130
Potassium Nitrate	76-80
Potassium Sulfate	42-48
Potato Flour	48
Pumice, Ground	40-45
Pyrites, Iron	135-145
Pyrites, Iron, Pellets	120-130
Quartz Dust	70-80
Quartz	80-95
Rice, Hulled	45-49
Rice, Polished	30
Rice, Rough	32-36
Rice, Bran	20
Rice, Grits	42-45
Rice, Hulls	20-21
Rosin	65-68
Rouge, Powder	25
Rubber, Reclaimed, Ground	23-50
Rubber, Reclaimed	25-30
Rubber, Pellets	50-55
Rye	42-48
Rye, Feed	33
Rye, Meal	35-40
Rye, Middlings	42
Rye, Bran	15-20
Rye, Shorts	32-33

BULK MATERIAL DENSITY TABLE

Material Description	Loose Bulk Density #/Ft. ³
Safflower, Seed	45
Safflower, Cake	50
Safflower, Meal	50
Saffron (See Safflower)	-
Sal Ammoniac (See Ammonium Chloride)	-
Salicylic Acid	29
Salt, Dry, Coarse	45-60
Salt, Dry, Fine	70-80
Salt Cake, Dry, Coarse	85
Salt Cake, Dry, Pulverized	65-85
Salt peter (See Potassium Nitrate)	-
Sand, Dry, Bank (Damp)	110-130
Sand, Dry, Bank (Dry)	90-110
Sand, Foundry, Prepared	65-75
Sand, Foundry (Shake Out)	90-100
Sand, Dry, Silica	90-100
Sand, (Resin Coated) Silica	104
Sand, (Resin Coated) Zircon	115
Sandstone, Broken	85-90
Sawdust, Dry	10-13
Sea-coal	65
Sesame Seed	27-41
Shale, Broken	90-100
Shale, Crushed	85-90
Shellac	80
Shellac, Powdered or Granulated	31
Silica Gel Plus 1/2"	45
Silicon Dioxide (See Quartz)	-
Silica, Flour	80
Slag, Blast Furnace, Crushed	130-180
Slag, Furnace, Granular, Dry	60-65
Slag, Furnace, Granular, Wet	90-100
Slate, Crushed, -1/2"	80-90
Slate, Dust	70-80
Slate, Ground, -1/8"	82-85
Slate, Lump	85-95
Sludge, Sewage, Dried	40-50
Sludge, Sewage, Dry, Ground	45-55
Soap, Beads or Granules	15-35

Material Description	Loose Bulk Density #/Ft. ³
Soap, Chips	15-25
Soap, Detergent	15-50
Soap, Flakes	5-15
Soap, Powder	20-25
Soapstone, Talc, Fine	40-50
Soda Ash, Briquettes	50
Soda Ash, Heavy	55-65
Soda Ash, Light	20-35
Soda Alum	75
Sodium Aluminate, Ground	72
Sodium Aluminum Fluoride (See Kryolite)	-
Sodium Aluminum Sulphate	75
Sodium Bentonite (See Bentonite)	-
Sodium Bicarbonate (See Bicarbonate of Soda)	-
Sodium Chloride (See Salt)	-
Sodium Carbonate (See Soda Ash)	-
Sodium Hydrate (See Caustic Soda)	-
Sodium Hydroxide (See Caustic Soda)	-
Sodium Borate (See Borax)	-
Sodium Nitrate	70-80
Sodium Phosphate	50-60
Sodium Sulfate (See Salt Cake)	-
Sodium Sulfite	96
Sorghum Seed (See Kafir or Milo)	-
Soy Bean, Cake	40-43
Soy Bean, Cracked	30-40
Soy Bean, Flake, Raw	18-25
Soy Bean, Flour	27-30
Soy Bean Meal, Cold	40
Soy Bean Meal, Hot	40
Soy Beans, Whole	45-50
Starch	25-50
Steel, Turnings, Crushed	100-150
Steel, Trimmings	75-150
Sugar Beet Pulp, Dry	12-15
Sugar Beet Pulp, Wet	25-45
Sugar, Refined, Granulated, Dry	50-55

BULK MATERIAL DENSITY TABLE

Material Description	Loose Bulk Density #/Ft. ³
Sugar, Refined, Granulated, Wet	55-65
Sugar, Raw	55-65
Sugar Cane, Knifed	15-18
Sulphur, Crushed -1/2"	50-60
Sulphur, Lumpy, -3"	80-85
Sulphur, Powdered	50-60
Sunflower, Seed	19-38
Taconite, Pellets	116-130
Talcum Powder	50-60
Talcum, -1/2"	80-90
Talc, Solid	165
Tallow	58
Tanbark, Ground	55
Timothy Seed	36
Titanium Dioxide (See Illmenite Ore)	-
Titanium Sponge	60-70
Tobacco, Scraps	15-25
Tobacco, Leaves, Dry	12-14
Tobacco, Snuff	30
Tobacco, Stems	15
Trap Rock, Screenings	90-100
Trap Rock, Lumps	100-110
Tricalcium Phosphate	40-50
Trisodium Phosphate	60
Trisodium Phosphate, Granular	60

Material Description	Loose Bulk Density #/Ft. ³
Trisodium Phosphate, Pulverized	50
Triple Super Phosphate	50-55
Tung Nuts	25-30
Urea Prills, Coated	43-46
Vermiculite, Ore	80
Vermiculite, Expanded	16
Vetch	48
Walnut Shells, Crushed	35-45
Wheat	45-48
Wheat Bran	16-20
Wheat, Cracked	40-45
Wheat, Flour	33-40
Wheat, Germ	18-28
Wheat, Middlings	20-24
White Lead, Dry	75-100
Wood Chips, Screened	10-30
Wood Chips, Hogged Fuel	15-25
Wood, Flour	16-36
Wood, Shavings	8-16
Zinc, Concentrate Residue	75-80
Zinc Dust	200
Zinc Ore, Crushed	160
Zinc Ore, Roasted	110
Zinc Oxide, Heavy	30-35
Zinc Oxide, Light	10-15

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**Material density is approximate as weight
can change due to moisture content of product.**