TOWN & COUNTRY PLASTICS
Customized For Precision

10-B Timber Lane, Marlboro, NJ 07746 • (732) 780-5300 • FAX: (732) 294-0001 • www.tandcplastics.com

HELP FIGHT POLLUTION WITH

LIMESTONE CHIPS

FOR ACID NEUTRALIZATION TANKS

GENERAL INFORMATION:

Limestone (marble) chips or lumps are being used in numerous applications to help neutralize and / or dilute chemical bearing wastes (e.g., acid wastes). After years of successful neutralization and dilution, many state and local environmental plumbing codes call for the addition of limestone chips into acid neutralization basins, tanks or sumps. Water is also added to the tanks to initiate the dilution process. The limestone chips being offered by T & C exceeds application requirements. The following two requirements are vital to proper limestone performance: The limestone must be in the one to three inch (1″ – 3″) diameter size range and must contain a high calcium carbonate content in excess of ninety percent (90%). T & C limestone contains about 95%.

HOW IT WORKS:

The effective ingredient in limestone is calcium carbonate. This chemical compound actually reacts with acids to form harmless neutral salts, carbon dioxide and water. The neutral salts usually precipitate into a sludge, which falls to the bottom of the tank. Carbon dioxide gas mixes with water to form carbonic acid, which helps to neutralize alkaline (caustic) wastes. The water, of course, helps to dilute the acidic, alkaline and solvent wastes. The above reactions can be illustrated chemically, as follows:

1) 2 hydrochloric acid (HCl) + calcium carbonate ($CaCO_3$) ⟶ calcium chloride ($CaCl_2$) + carbon dioxide (CO_2) + water (H_2O)
2) carbon dioxide (CO_2) + water (H_2O) ⟶ Carbonic acid (H_2CO_3)
3) 2 sodium hydroxide (NaOH) + carbonic acid (H_2CO_3) ⟶ sodium carbonate (Na_2CO_3) + 2 water (H_2O)

WHY IT'S IMPORTANT:

Corrosive, toxic and flammable wastes are being discharged daily from numerous industrial, institutional and commercial sources (e.g., hospital labs, school labs, chemical plants, plating facilities, slaughter houses, battery charging stations, photographic labs, etc.). Neutralization and dilution of these potentially hazardous wastes is very necessary, even when the quantities and concentrations are small. Such wastes can cause physical damage to a building's piping or outside sewer system. If the effluent is being discharged to a sewage treatment facility, these harmful wastes can interfere with normal waste treatment. However, if the effluent is being ultimately discharged to a river or lake, the damage to our wildlife and environment is obvious.

Neutralization is the process whereby acids and alkalis (wastes) can be rendered harmless with the use of certain chemicals. Dilution is the process whereby chemical-bearing wastes can also be rendered harmless by the massive solvent (water) mixing or flushing. This mixing dilutes the effluent to a point that the chemicals in the wastes are rendered impotent. The degree of neutralization or dilution can be physically measured in numerical terms, through a system known as pH (positive hydronium ions). Neutral liquids, such as water, register a pH number of 7; acids register from 0 to 6.99; alkalis range from 7.01 to 14. The lower the number, the more acidic the waste. The higher the number, the more alkaline (caustic) the waste.

The use of T & C limestone and tanks are frequently the best and least expensive means to protect pipes and sewers from damage and to meet stringent environmental and plumbing codes. However, if necessary, T & C equipment can be used in conjunction with more sophisticated chemical treatment processes in order to achieve neutral and / or clean effluent.

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DON'T FORGET MAINTENANCE:

Tanks should be inspected routinely to determine if the precipitated sludge, debris and other material, must be cleaned out (usually scooped out) and for periodic limestone and water addition. Normally, once every month to three months is sufficient for interior tank inspection and maintenance. But, more-frequent or less-frequent inspection may be necessary in any particular case. Professional assistance should be sought to establish the correct inspection and maintenance schedule for a system.

NOTE:
Tanks must be filled with water prior to carefully filling with limestone when recharging tank (sump). Ask for instruction sheet.

HOW MUCH TO USE:
Here is a handy guide to use in ordering limestone chips for T & C neutralization basins. The amounts listed are only for one tank filling .T & C recommends that more than one filling be ordered, so the facility has additional limestone for maintenance purposes. One or two additional fillings are recommended.

* Dolomitic limestone is needed for wastes that are only or predominately battery acid or sulfuric acid. Read our tank literature for further Dolomitic limestone Information.

T & C limestone chips are conveniently packaged in 55- lb. plastic bags. (55- lb. bags may vary in content by as much or little as 15%.)

NOTE: Convert pounds of limestone into bags of limestone, by dividing pounds by 55. Example: 1,000 lb. equals eighteen (18) 55- lb. bags.

All prices are F.O.B. warehouse. Allow two – four weeks for delivery.

TANK MODEL #	APPROXIMATE AMOUNT POUNDS
NT-5	50 lbs.
NT-15	100 lbs.
NT-30	200 lbs.
NT-55	500 lbs.
NT-100	1,000 lbs.
NT-150	1,750 lbs.
NT-175	1,900 lbs.
NT-200	2,500 lbs.
NT-275	3,200 lbs.
NT-300	3,200 lbs.
NT-350	4,000 lbs.
NT-500	5,000 lbs.
NT-550	7,500 lbs.
NT-650	9,000 lbs.
NT-700	9,100 lbs.
NT-800	9,500 lbs.
NT-1000	10,200 lbs.
NT-1100	10,600 lbs.
NT-1200	11,000 lbs.
NT-2000	16,000 lbs.
NT-3000	25,000 lbs.

ASK FOR OUR LIMESTONE REPLACEMENT / MAINTENANCE INSTRUCTION SHEET.