

# C-5 Odor Neutralizer

## Instant Odor Removal & Prevention

Quick and long-term solution instead of wasting your money on masking agents or encapsulation products



**Mala**TECH  
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### Benefits of C-5 Odor Neutralizer:

- **Significantly reduces H<sub>2</sub>S, NH<sub>3</sub>, Mercaptan gas formation**
- **Highly efficient and effective** against numerous odors
- **Preventing the corrosion of concrete, and metal parts** in lift stations
- A true odor-elimination product with **immediate action**
- Broad range of **applications on liquid, and solid wastes**
- **Safe, and easy to incorporate into your normal treatment routine**
- **100% all-natural & biodegradable, non-GMO, non-toxic, non-hazardous product with long shelf life**



### Product description:

**C-5 Odor Neutralizer is an all-natural, microbial product formulated to digest odor producing compounds generated from the decomposition of organic materials.** The odor producing compounds are organic compounds containing Sulphur or Nitrogen functionality, which are usually based on Organo-Sulphur compounds such as Hydrogen Sulphide, Mercaptans, Sulphides and Disulphides. Other odor creating compounds are based on Organo-Amines, such as Cadaverine, which is Penta-methylene Diamine. This compound is generated by microbial decarboxylation of Lysine. Some of these compounds include the Mercaptan family of compounds, which are Sulphur based. The Amino functional Hydrocarbons of low molecular weight also create some petrifying malodors.

The decomposition of organic compounds usually creates Hydrogen Sulphide, but also creates Cadaverine, which is a Hydrocarbon Diamine. These compounds are produced when the bacteria digest the organic proteins in an anaerobic environment. This causes the bacteria to pull off the Oxygen atoms on the amino acids of the proteins causing the production of Sulphides, Mercaptans and Amino Hydrocarbons.

**The mode of action of the C-5 is to change the Biochemical pathway generating the odor creating compounds.** Many times, in anaerobic conditions microbes strip off Oxygen from Sulphates and release Hydrogen Sulphide as a by-product. **C-5 changes the pathway allowing for Anaerobic respiration to occur through another pathway that does not release Sulphides or Amines as by-products.** C-5 Odor Neutralizer changes the environment to digest the proteins and fats down another biochemical pathway that does not produce the reduction by-products which cause odor production. **Any Ammonia or Hydrogen Sulphide present is digested by the live Cozymase System found in C-5 Odor Neutralizer, which uses these compounds as fuel for their cellular functions.**

**C-5 is not a masking agent or an encapsulation product.** It works at the molecular level at the source of the generation of the odor creating compounds.

## Fields of application:

- Odor reduction at municipal wastewater canalisation systems, and lift stations
- Increasing odor removal capacity of biofilters, regenerating filter material
- Deodorizing solid wastes at households, and landfills
- Deodorizing liquid manure, and solid waste in agriculture



## Application of C-5 Odor Neutralizer:

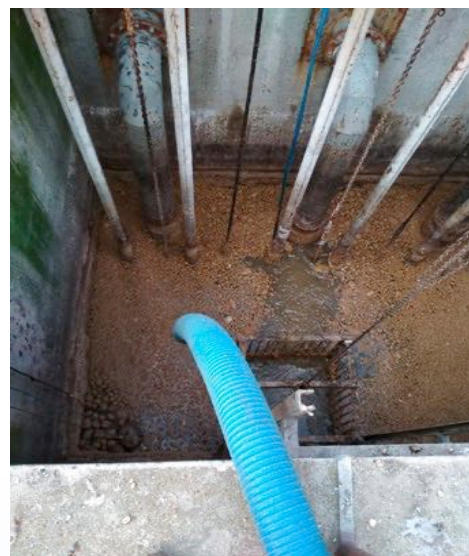
### Increasing odor removal capacity of biofilters at lift stations

Unpleasant odorous gases coming from the digested wastewater often cause odor, and corrosion problems at lift stations. The cause of Hydrogen Sulphide and Ammonia formation in sewage systems is usually high retention time, which enhances rotting of wastewater. The adsorption capacity of the applied odor filters is often not sufficient, and the unpleasant smell may lead to several complaints from citizens of the affected area.

C-5 Odor Neutralizer is a liquid natural botanical product formulated from natural materials designed to digest odor-producing compounds that derive from decomposing organic matter. The product is composed of different natural microbes, which adhere to the filter-surface to eliminate effectively the unpleasant smell.

The strong smell in the wastewater can be derived from the decay of organic materials. These compounds typically contain Sulphur or Nitrogen (also including Sulphur-based Mercaptan compounds, and short-chain fatty acids including Amino group). In this case smell is caused mostly by the anaerobic bacteria, which break down proteins and other organic materials, because these microorganisms get to breathe the Oxygen from the amino groups of the proteins.

C-5 Odor Neutralizer changes the environment to digest the proteins and fats down another biochemical pathway, significantly reducing odorous gases. The biofilm on the filter surface absorbs and breaks down the formed Hydrogen Sulphide and Ammonia in an enzymatic pathway, and significantly improve the odor elimination capacity of the biofilter.



**Dosage information:** Create a 5-10-time dilution of the product with pure water. Depending on the volume of the filter material in the biofilter, make sure to spray the diluted product throughout the entire area of the filter material, and make sure the diluted C-5 stream flows through the entire volume of the filter material downwards. Make sure the filter material is impregnated well with C-5. Repeat the treatment when necessary.

### Preventing odor formation in sewage systems, H<sub>2</sub>S, NH<sub>3</sub>, Mercaptan reduction

Dosing the concentrated C-5 can significantly reduce the formation of Hydrogen Sulphide, Mercaptans, and Ammonia in wastewater lines where the hydraulic retention time for the raw municipal wastewater is high. For optimizing the C-5 usage, dosage is done upstream the problematic lift station. C-5 dosage can be significantly less if used for prevention, instead of direct odor removal at the odorous lift station.

By the application of C-5 in municipal wastewater systems, the odor complaints of inhabitants living near lift stations can be addressed, as well as the corrosion problems of the lift station's metal, and concrete parts caused by H<sub>2</sub>S can be significantly reduced.

**Dosage information:** Dose the undiluted, concentrated version of C-5 by a low-capacity metering pump **upstream before the high-HRT part of the system begins** to maximize the effect in odor control. If you do so, you are able to use the preventive part of C-5 technology, not just the direct odor removal ability, which is more economical in material usage.



**Week 1:** 6-16 ppm depending on HRT, and COD load, based on wastewater daily flowrate in m<sup>3</sup>/d which flows through the lift station where the product is dosed.

**Onwards:** 2-12 ppm depending on HRT, and COD load.

### C-5 Odor Neutralizer in landfills, and households

C-5 Odor Neutralizer is an instant odor control product if applied on solid wastes, or odorous surfaces. Once C-5 is sprayed evenly on the odorous surface, the Cozymase system immediately starts the digestion of odorous gases, and the surface stops releasing smell right after the treatment.

C-5 is widely used in municipal scale by people deodorizing their dust bins at home, as well as by landfill operators to deodorize solid waste at landfills.

C-5 can be applied at any surface of wastes releasing odorous gases due to rotting organic content.

**Dosage information:** Dilute C-5 Odor Neutralizer 5-10:1 with water (dilution ratio depends on type of waste). Spray onto the waste, care to cover the surface evenly with the spray. Spraying frequency depends upon the accumulation rate of waste products causing the odor. One litre of diluted material will cover etc. 20 square meter area.



### C-5 Odor Neutralizer in animal farms

Our C-5 Odor Neutralizer technology is suitable for deodorizing and reducing Ammonia and Hydrogen Sulphide emission of the litter in deep-litter swine and poultry farms. The application has several benefits: besides odor reduction, the necessary medication of the livestock is supposed to be reduced. Ammonia and Hydrogen Sulphide gases are harmful to the lungs of the animals, which results the application of various medicines in a reasonable amount. Their presence leads to inadequate growth and development of animals, and sometimes even increased mortality and reduced yields.

Therefore, application of C-5 Odor Neutralizer delivers great performance in odor reduction, and indirectly the healthier living environment of animals may reduce the amount of medicines applied, increase the reproduction rate, and reduce the mortality, which means net profit for the farmers.



C-5 application here cannot be considered as an extra cost, moreover the benefits deriving from the product's application can lead to greater economical profit than the price of the product applied on a yearly basis.

C-5 also can be used for deodorizing manure piles, and other organic wastes formed in farms.

**Dosage information:** 1 litre of C-5 Odor Neutralizer concentrate is enough for the treatment of 100 m<sup>2</sup> of odorous litter after 1:5-time dilution with pure water. As the product is not harmful to animals, it can be applied even at their presence. The C-5-treated urine and fecal matter finally arrive in the slurry collection tank, where C-5 continues its action by significantly reducing reductive odorous gas formation.

## IMPORTANT INFORMATION

**Recommended dosages are guidelines only. For determining exact dosages for your application, or have any questions, do not hesitate to contact us!**

### Packaging information:

The product is available in 19 litre safety pails which is the lowest unit for ordering.

### Storage information & shelf life:

Keep the product in a cool and dry place below 28 Celsius. Avoid exposure to direct sunlight. Shelf life is 5 years from manufacturing date.