

Persnickety® Countervailants™ Additive Solutions for Odour Control Sludge and High-Strength Waste Additive

persnickety®; n.

- Showing extremely careful treatment
- Fussy, fastidious

coun'ter•vail, v.

- to have or use equal force against
- to make up for; compensate
- to be successful, useful, etc

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PERSNICKETY® ODOUR COUNTERVAILANT® Additive is compounded to address the highly complex malodours associated with the biological decomposition of sludges and high-strength liquid wastes. Such wastes have a high Biochemical Oxygen Demand (BOD), and it is impractical and/or impossible to maintain free or chemically uncombined oxygen (DO) in the solutions. Consequently, the biological process is always anaerobic. Anaerobic bacteria must obtain their oxygen bychemically breaking down organic compounds which contain combined oxygen. This reductive process produces malodorous by-products. The type of nuisance malodours produced depends on the substrates available.

The rotten egg smell of hydrogen sulphide (H₂S) is a common by-product as is the pungent, stinging odour of ammonia (NH₃). Other sulphides, mercaptans, amines, indole and skatole compounds are also common. In addition to available macro organic substrates, many other factors influence the types and amounts of malodours produced - pH, temperature, retention time, inorganic ions, trace elements, vitamins, iron-chelating compounds, amino acids, unsaturated fatty acids, nucleic acid bases, exoenzymes, to name a few.

Such complex conditions are most often too rigorous for the effective use of chemical oxidants and metallic salts, which work well on only a portion of the spectrum of malodours and under narrow operating conditions. Biocides are environmentally unsound as odour control agents because they stop the necessary reductive process. Masking agents and counteractants are simply overwhelmed. (See Odour Perception • Odour Qualities • Chemical Control Methods, OCS Ltd data sheet, for greater detail.) The Additive is the most broadly capable formulation of all PERSNICKETY® Odour Countervailants, and provides the following very important advantages:

Superior Malodour Control

- Formulated specifically for the complexities inherent in sludges and high-strength wastes.
- Functions effectively in all field ranges of temperature and pH.
- Is not affected by the presence of non-malodorous organics.
- **IMPORTANT NOTE:** Because PERSNICKETY Additive works so effectively, pay special attention to appropriate safety procedures when entering confined spaces.

Improved Safety for Operators and the Environment

- Contains no toxic materials and forms no toxic by-products.
- Is non-explosive, non-flammable and non-corrosive.
- Biodegrades fully and forms no damaging decomposition by-products.
- Meets national and international health and safety standards.

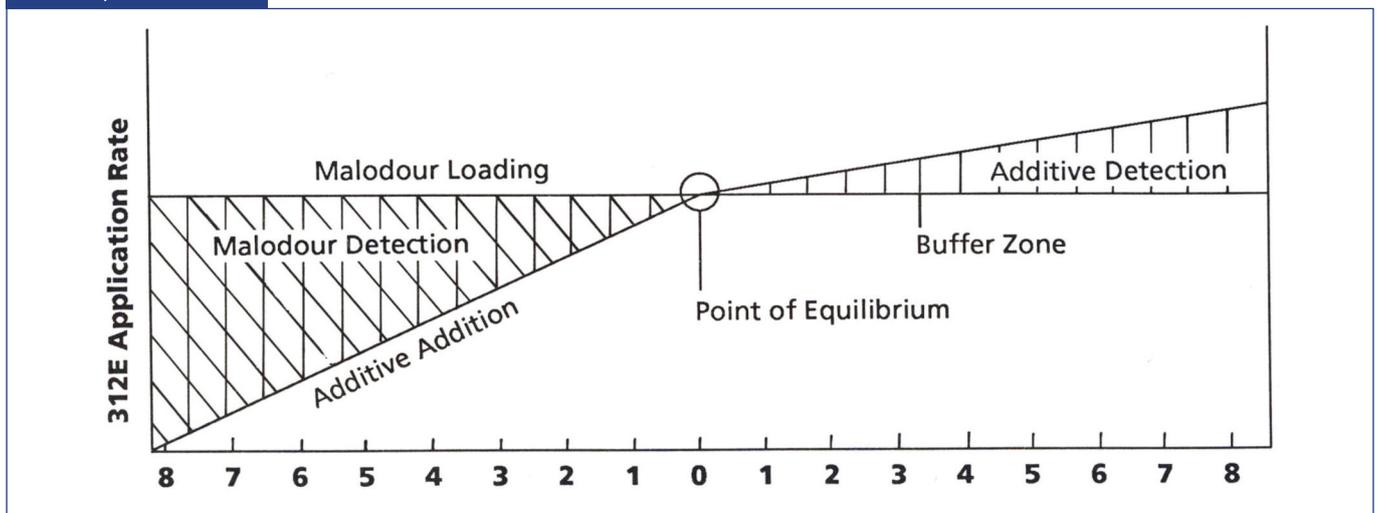
More Economic

- Normally reduces chemical costs for effective complex-malodour control.
- Potentially allows avoidance of litigation costs via more effective malodour control, and improves operator morale and productivity.

Application Information

Application rates for PERSNICKETY® Sludge and High-Strength Waste Additive are largely dictated by the intensity of malodour. The proper rate establishes an equilibrium between malodour and Additive.

Equilibrium



Odour Perception

In practice, a constant level of malodour is not always present. Intensity variations occur. Therefore, many customers choose to operate with a faint level of the Additive odour present to act as an olfactory guide in order to provide a buffer zone.

The Additive is normally fed into waste streams, sludge and slurry holding, consolidation and thickening tanks by automatic dosing pumps. If the holding vessel is equipped for mixing, an automatic or manual batch dose is appropriate. For Persnickety Additive to be most effective, it is important that it is dispersed as homogeneously as possible throughout the material being treated in order to ensure full contact and treatment. This is best accomplished by diluting the appropriate amount of the Additive with water to make up a 1-2% solution. The diluted solution is then fed or mixed into the waste stream or holding vessel.

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The necessary dosage rates must be determined on a case-by-case basis. Good starting guidelines can be provided, however. An exhaustive list of waste types would be nearly endless. The malodorous materials listed below represent a fairly wide spectrum of odour intensity. Weigh the intensity of malodours under consideration against those listed, and increase or decrease the recommended starting application rate accordingly. Initial assessments can be readily made on the laboratory bench.

STARTING RECOMMENDATIONS		
MALODOROUS MATERIALS	PPM	LTRS. PERSNICKETY PER 10,000 LTRS. WASTE
Digested Domestic Sludge	25 - 50 PPM	0.25 - 0.5
Pulp & Paper Sludge	50 - 75 PPM	0.50 - 0.75
Raw Domestic Sludges	75 - 100 PPM	0.75-1.00
Fruit & Vegetable Processing Sludge	80 - 100 PPM	0.80 - 1.00
Dairy/Cheese Sludge	80 - 100 PPM	0.80 - 1.00
Meat, Fish & Rendering Sludge	100 - 125 PPM	1.00 - 1.25
Cattle Slurry	75 - 100 PPM	0.75 - 1.00
Poultry Slurry	75 - 100 PPM	0.75-1.00
Pig Slurry	125 - 150 PPM	1.25-1.50
Septic Domestic Influent	20 - 30 PPM	0.20 - 0.30
Silage Juices	30 - 50 PPM	0.30 - 0.50
Portable & Vault Toilets	200 - 300 PPM	2.00 - 3.00
Household Waste	10- 25 PPM	0.10 - 0.25 or 5 litres of a 1% solution will treat 300sqm.
NOTE: Due to its policy of continuous research and development OCS reserves the right to alter specifications without prior notice.		

Physical and Safety Data

Weight	per Litre per Gallon	1.004 kgs. 4.564 kgs.
Specific Gravity	@ 77°F @ 25°C	1.004 1.004
Boiling Point	°F °C	205° 95.2°
Flash Point	°F °C	> 200° > 93.3°
Solubility in Water	@ 77°F @ 25°C	Soluble Soluble
Odour		Woody/Floral/Minty
Colour		Clear amber liquid.
Hazard Rating		Non-Hazardous. Good housekeeping procedures and general principles of safety should be observed when handling any chemical product.
First Aid		Skin contact - in cases of prolonged skin contact, wash off with soap and water. If any irritation exists, seek medical advice. Eye contact - wash eyes with lots of water for at least 10 minutes and seek medical advice. If swallowed - drink lots of water and seek medical advice immediately. Consult material safety sheet.
pH		7.4 - 7.6
Corrosivity		Non-corrosive
Biodegradability		Fully biodegradable
Packaging		25 kgs containers and 200 kgs drums.
Shelf Life		12 months in unopened containers
Storage		Protect from freezing. Do not store in temperatures above 120°F, 48.9°C.

Limited Warranty

Our only obligation shall be to replace or pay for any material proved defective. Beyond the purchase price of materials supplied by us, we assume no liability for damages of any kind and the user accepts the product "as is" and without warranties, expressed or implied. The suitability of the product for an intended use shall be solely up to the user.

preserving the environment

Odour Control Systems Ltd
33a Castle Close, Manor Lane
Hawarden Industrial Park
Hawarden, Flintshire CH5 3QX

Phone: +44 (0)1244 536700
Fax: +44 (0)1244 535184
E-mail: mail@odourcontrolsystems.ltd.uk
Web: www.odourcontrolsystems.ltd.uk



Certificate No. 7174

