

Dairy Food Industry Trade Waste Guideline No. 32

INTRODUCTION

Trade waste discharges from companies processing dairy food have the potential to adversely affect the sewerage system. Appropriate management practices at each site are therefore necessary. This Guideline outlines the areas of concern and available technologies for the control of trade wastes.

For the purpose of this Guideline, 'Dairy Food Industry' refers to premises that utilise milk or milk products in the process of making packaged milk, cheeses, butter, creams, fermented dairy foods and ice cream/ice confection.

KEY TRADE WASTE QUALITY REQUIREMENTS

PARAMETER	GENERALLY ACCEPTED LEVEL
Biochemical Oxygen Demand	<1,000mg/L
Suspended Solids	<500 mg/L
Grease/Oil	<100mg/L
pH	Between 6-10 units
Total Dissolved Solids	<1500mg/L
Temperature	<38°C
Flow rate to sewer	Dependant on capacity of receiving sewers

Note: Discharge limits may be varied under certain circumstances for individual dischargers.

BEST PRACTICE MANAGEMENT ASPECTS

- An in-house waste management strategy, consistent with best practice for the Industry has been developed and implemented to minimise the loading of contaminants discharged to sewer.
- Vats or tanks containing viscous material such as yoghurt should be scraped or squeegeed prior to washing.
- Cooling water used in pasteurisers and other areas is directed to cooling towers or other storage vessels to enable reuse (bleed rates should be set to minimise wastage).
- Returned, contaminated or excess products/rejects are considered for reuse as animal feed. If unacceptable for animal feed other options should be considered, such as:
 - Partial treatment or dilution to enable stock feeding
 - Irrigation of pasture. (subject to [EPA](#) approval)
 - Evaporation for solid stock feed
 - Off-site composting

DESIGN / INSTALLATION

- No floor drains in process areas for milk products. Pump sumps are directed to the 'Pig Tank'.
- Holding/buffer tanks may be required for management of peak loadings or flows, so that treatment plant capacity is not overwhelmed.

Reviewed January 2011

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- Tanker receiving areas are roofed and bunded. Only the inside of the tanker and the area surrounding pipe connection points is cleaned in this area. External delivery truck and tanker sections are washed in an approved wash bay. See [Trade Waste Vehicle Washing Guideline No.18](#).
- Discharge of waste water from cooling towers is in accordance with [Trade Waste Cooling Water Discharge Guideline No. 16](#). In most cases this should be segregated from other waste streams, where pre-treatment requirements are different.
- Tanks and storage vats should be designed to enable gravity to drain the majority of product before cleaning.
- Valve systems should be designed to enable 'pigs' entry/exit to all areas. Alternatively air flushed systems can be used.
- Cleaning in process (C.I.P.) systems use three main chemical types: acid, alkali and sterilant. These should be returned to main storage tanks for reuse until spent or contaminated. Waste acid and alkali should be used for neutralisation of each other. Waste water above pH 10 (because of additional use of alkali in relation to the acid) should be neutralised with carbon dioxide, flue gas, or other similar product that does not increase discharge salinity level.

TYPICAL PRETREATMENT (small operations)

- Silt traps/screens
- Settling Pit
- Automatic pH correction system with shut off valve

ADDITIONAL PRETREATMENT (medium to large operations)

- Buffer tank/s
- Enhanced systems to separate emulsified fats and soluble proteins, with addition of polymers/coagulants and removal with Dissolved Air Flotation etc.
- Dewatering of separated grease & solids.

MAINTENANCE

It is the responsibility of site management to ensure the effective operation of all pre-treatment equipment (e.g. ongoing removal of accumulated grease/solids & chemical replacement).

ADDITIONAL INFORMATION

Mains Water Protection (AS/NZS3500-2003 Part 1), [Trade Waste Bunding Guideline No.4](#), [Trade Waste Blind Tank Guideline No.3](#), [Trade Waste General Policy](#), [Standards of Acceptance of Liquid Waste to Sewer](#), Fact Sheet: [Trade Waste Charges](#)

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