

Attachment H.1

MATERIALS HANDLING

Raw Materials, Intermediates, Products Handling

**Kerry Ingredients (Ireland) Ltd.
Revised IPPCL Application**

Project Ref: OES1005_09

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H.1 Materials Handling

All materials in use at Kerry Ingredients are stored at different locations depending on the nature/status of the material.

Prior to coming onsite all materials must receive approval from the Health and Safety Officer and also from the Environmental Manager. This approval will dictate the treatment of the material while it is in use at the plant until its final disposal. Where possible the use of hazardous materials is eliminated at the site.

For the purpose of describing materials handling arrangements on site, the range of materials onsite can be categorised as follows:

- Raw Materials (Food Grade)
- Intermediate Products and Finished Products
- Chemicals (Ancillary Materials)
- Fuels and Lubricants
- Waste

The handling – receipt, storage, internal distribution, bunding and containment – of each category of material is described in the following sections.

H1.1 Raw Material

Raw materials (food grade) at the site includes fresh whole milk, edible oils industrial cheeses and food ingredients, the latter being predominately solid or semi-solid in nature.

Bulk raw material is stored in a number of silo areas depending on material type.

Raw milk is stored in one of eighteen 273m³ bulk milk storage silos. From here the milk is pumped to the areas where it is required.

Food ingredients are stored in the general store and are transported to the relevant departments as required.

H1.2 Intermediate Products and Finished Products

Intermediates such as cream, skim milk, whey, butter oil and vegetable oil are stored in a variety of tanks and silos depending on the production route in which they are used.

These tanks are generally located at the intake area and in the immediate vicinity of the yellowfats production buildings.

All product packaging is stored in the general stores and also in the areas and in the production areas where it is intended for use.

Depending on the final product produced, finished products are stored in different areas of the plant as follows:

- Butter – Cold store
- Spreads – Cold store
- Cheese – Cold store
- Powders – Dry store powder warehouse

The general stores is located in a building on the northwest corner of the site where raw materials and packaging are stored prior to movement to relevant production areas for use in production.

The pallet stores is located outdoors near the northern boundary of the site within proximity to the general stores.

Cold stores and dry stores are located in building between the cheese plant and the powder plant.

H1.3 Chemicals (Ancillary Materials)

All chemicals in use at the plant are stored in dedicated containers or storage tanks, which are bunded to retain the contents of the tank in the event of a spill.

All chemicals are segregated according to their individual properties and stored appropriately. Large volumes of chemicals used on site are stored in storage tank farms while smaller containers are stored outdoors in the chemical stores area.

The acid tank farm for wastewater treatment is located in the vicinity of the wastewater treatment plant at the southern end of the site.

The general chemical store is located at the northern end of the site.

H1.4 Fuels & Lubricants

The primary liquid fuels in use at the plant are heavy and light fuel oils used on boilers A1-1, A1-2, A1-3, A1-4 and A1-5.

All of these fuel oil tanks are located in a bunded compound to the rear of the maintenance building at the southern end of the site.

Heavy fuel oil is stored in each of two 350m³ steel storage tanks. Light fuel oil is stored in a 280m³ steel storage tank.

Kerosene is used for space heating in the canteen and administration buildings. This heating fuel is stored in two bunded storage tanks (2,000 l and 2,990 l respectively) to the rear of these buildings.

A number of smaller containers (up to 210L) containing lubricants and greases are stored on a bunded racking system in the area known as the oil compound adjacent to the maintenance block. All drums stored in this area are fully bunded.

A tank containing propane gas used as forklift fuel is located beside the firewater tank on the northeastern boundary of the site.

Coal and peat used as fuel for the solid fuel boiler (A1-6) are stored in the open air in the vicinity of the solid fuel boiler at the southwest corner of the site.

H1.5 Waste

A dedicated waste management area has been allocated at the southern end of the plant in the vicinity of the wastewater treatment plant. Here all wastes are segregated, sorted and/or baled as required prior to collection for disposal/recovery by a permitted waste contractor.

Organic Waste

Organic waste sludge is stored during winter months and periods not suitable for landspreading, at a Kerry Ingredients off-site storage facility at Causeway, Co. Kerry.

The Kerry Ingredients sludge storage facility at Causeway, is a secured engineered facility comprising two lined storage bunds. Each bund is covered with a heavy gauge polyethene cover to prevent the ingress of rainwater and thereby prevent any volume changes. Each storage bund has a capacity to store 3000 t of sludge with a total storage capacity at the facility of 6000 t.

Sludge is transported to and from the facility via vacuum tanker by a licensed waste contractor (SolWM).

H1.6 Internal Distribution

Bulk liquid and raw materials and intermediates are generally distributed throughout the plant via a network of above ground pipelines. These pipelines are visually inspected for leaks on an ongoing basis.

Before use at the site the Health and Safety and the Environmental Departments sign off all materials after evaluation from a risk and control perspective.

The Quality Control Department also checks all food ingredients prior to use.

H1.7 Bunding and Containment

Details of all onsite bunding and containment are included in Attachment J

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**Appendix H.1.1
Tank and Silo Register**

Table H.1.1 Tank and Silo Register

TA Ref	No.	Contents	Location/Description	Capacity (m ³)
TA-101-01	18	Milk & Whey	Intake Silo No. 1	273
TA-101-02		Milk & Whey	Intake Silo No. 2	273
TA-101-03		Milk & Whey	Intake Silo No. 3	273
TA-101-04		Milk & Whey	Intake Silo No. 4	273
TA-101-05		Milk & Whey	Intake Silo No. 5	273
TA-101-06		Milk & Whey	Intake Silo No. 6	273
TA-101-07		Milk & Whey	Intake Silo No. 7	273
TA-101-08		Milk & Whey	Intake Silo No. 8	273
TA-101-09		Milk & Whey	Intake Silo No. 9	273
TA-101-10		Milk & Whey	Intake Silo No. 10	273
TA-101-11		Milk & Whey	Intake Silo No. 11	273
TA-101-12		Milk & Whey	Intake Silo No. 12	273
TA-101-13		Milk & Whey	Intake Silo No. 13	273
TA-101-14		Milk & Whey	Intake Silo No. 14	273
TA-101-15		Milk & Whey	Intake Silo No. 15	273
TA-101-16		Milk & Whey	Intake Silo No. 16	273
TA-101-17		Milk & Whey	Intake Silo No. 17	273
TA-101-18		Milk & Whey	Intake Silo No. 18	273
TA-102	1	Washwater	Lorry Wash Intake No 1	5
TA-103	1	Caustic	Lorry wash intake No 2	5
TA-104	1	Water	Lorry wash intake No 3	5
TA-105	1	Caustic	Caustic storage intake	23
TA-106	1	Acid	Silos Cip intake No 1	9
TA-107	1	Caustic	Silos Cip intake No 2	9
TA-108	1	Acid	Silos Cip intake No 3	9
TA-109	1	Caustic	Silos Cip intake No 4	9
TA-110	1	Water	Silos Cip intake No 5	9
TA-111-01	4	Buttermilk/Conc	Buttermilk/Concentrates No. 1	91
TA-111-02		Buttermilk/Conc	Buttermilk/Concentrates No. 2	91
TA-111-03		Buttermilk/Conc	Buttermilk/Concentrates No. 3	91
TA-111-04		Buttermilk/Conc	Buttermilk/Concentrates No. 4	91
TA-112	1	Acid	Cip to whey Silos No. 1	9
TA-113	1	Caustic	Cip tp whey Silos No 2	9

TA Ref	No.	Contents	Location/Description	Capacity (m ³)
TA-114	1	Water	Cip to whey Silos No 3	9
TA-115	1	Water	Cip to spreads No 4	9
TA-116	1	Acid	Cip to spreads No 5	9
TA-117	1	Water	Cip to spreads No 6	9
TA-118	1	Caustic	Cip to spreads No 7	9
TA-119	1	Caustic	Cip to spreads No 8	1
TA-120	1	Water	Filtered water spreads	10
TA-121-01	2	Butter Oil	Butteroil silo No. 1	60
TA-121-02		Butter Oil	Butteroil silo No. 2	60
TA-122	1	Olive Oil	Spreads silo No. 3	57
TA-123	1	Olive Oil+blends	Spreads silo No. 4	57
TA-124	1	Veg.waste oil	Spreads silo complex	80
TA-125	1	Vegetable oil	Spreads silo No. 5	110
TA-126	1	Vegetable oil	Spreads silo No. 6	60
TA-127	1	Sunflower oil	Spreads silo No. 7	60
TA-128	1	Rape seed oil	Spreads silo No. 8	110
TA-129	1	Vegetable oil	Spreads silo 9+10 combined	109
TA-130	1	Whole milk	Cream Stand S 21	55
TA-131-01	3	Skim milk	Cream Stand No. 38	5
TA-131-02		Skim milk	Cream Stand No. 39	5
TA-131-03		Skim milk	Cream Stand No. 40	5
TA-132-01	2	Cream	Cream Stand No. 32	73
TA-132-02		Cream	Cream Stand No. 33	73
TA-133-01	4	Cream	Cream Stand No. 34	114
TA-133-02		Cream	Cream Stand No. 35	114
TA-133-03		Cream	Cream Stand No. 36	114
TA-133-04		Cream	Cream Stand No. 37	114
TA-134-01	6	Fat Silos	Veg oil for Powder & Cheese No. 1	80
TA-134-02		Fat Silos	Veg oil for Powder & Cheese No. 2	80
TA-134-03		Fat Silos	Veg oil for Powder & Cheese No. 3	80
TA-134-04		Fat Silos	Veg oil for Powder & Cheese No. 4	80
TA-134-05		Fat Silos	Veg oil for Powder & Cheese No. 5	80
TA-134-06		Fat Silos	Veg oil for Powder & Cheese No. 6	80

TA Ref	No.	Contents	Location/Description	Capacity (m ³)
TA-135-01	4	Rennet Casein	Casein Make-up No. 1	68
TA-135-02		Rennet Casein	Casein Make-up No. 2	68
TA-135-03		Rennet Casein	Casein Make-up No. 3	68
TA-135-04		Rennet Casein	Casein Make-up No. 4	68
TA-136	1	Caustic Detergent	CIP make up for Casein	45
TA-137	1	Filtered water	Spreads	14
TA-201	1	Ammonia	Old refrigeration	10
TA-202	1	Chilled water	Old refrigeration	70
TA-203-01	2	Condensate	Rear Boiler House	12
TA-203-02		Condensate		12
TA-204-01	2	Heavy Fuel oil	Rear Boiler House	350
TA-204-02		Heavy Fuel oil		350
TA-205	1	Diesel Oil	Rear Boiler House	280
TA-206	1	Soft water	Rear Air Compressors Room	500
TA-207	1	Water recovery	Soft Water Tank, Rear Generator Room	15
TA-208	1	Water Collection	Water treatment	23
TA-209-01	3	Carbonated water	Water treatment No. 1	18
TA-209-02		Carbonated water	Water treatment No. 2	18
TA-209-03		Carbonated water	Water treatment No. 3	18
TA-210	1	Soda Ash Tank	Water treatment	15
TA-211	1	Water tank	Water treatment	5
TA-212-01	2	Treated water tank	Rear new refrigeration plant	1341
TA-212-02		Treated water tank		1341
TA-213-01	2	Hot water	Hotwell tanks	205
TA-213-02		Hot water		205
TA-214-01	6	Acid	Acid Bund	55
TA-214-02		Acid		55
TA-214-03		Acid		55
TA-214-04		Acid		55
TA-214-05		Acid		55
TA-214-06		Acid		55
TA-215-01	3	Effluent	Aeration Tank No. 1	4500
TA-215-02		Effluent	Aeration Tank No. 2	4500
TA-215-03		Effluent	Aeration Tank No. 3	4500
TA-216-01	3	Effluent	Clarifier Tank No. 1	682
TA-216-02		Effluent	Clarifier Tank No. 2	682
TA-216-03		Effluent	Clarifier Tank No. 3	682
TA-217	1	Water	Water(treatment)1	6

TA Ref	No.	Contents	Location/Description	Capacity (m ³)
TA-218	1	Water	Water(treatment)2	1
TA-219	1	Water	Waste water tank	7
TA-220-01	2	Water+Air	Press vessel at D.A.F. No. 1	2
TA-220-02		Water+Air	Press vessel at D.A.F. No. 2	2
TA-221	1	Effluent Sludge	Sludge discharge tank	114
TA-222	1	Effluent	Denitrification tank	341
TA-223-01	2	Effluent	Feed tank decanter No. 1	23
TA-223-02		Effluent	Feed tank decanter No. 2	23
TA-224	1	Effluent	Breeder tank	55
TA-225	1	Effluent	Balance tank raw effluent	4,546
TA-226	1	Alum. Chloride	Clartech tank	60
TA-227	1	Alum. Chloride	Ferric tank	60
TA-228-01	6	Water+Sand	Sandfilter tank No. 1	14
TA-228-02		Water+Sand	Sandfilter tank No. 2	14
TA-228-03		Water+Sand	Sandfilter tank No. 3	14
TA-228-04		Water+Sand	Sandfilter tank No. 4	14
TA-228-05		Water+Sand	Sandfilter tank No. 5	14
TA-228-06		Water+Sand	Sandfilter tank No. 6	14
TA-229	1	Effluent	Anaerobic digester	4500
TA-230-01	2	Raw water	Blue storage tanks No 1	1200
TA-230-02		Raw water	Blue storage tanks No 6	1200
TA-231	1	Cation waste	Blue storage No 2	1200
TA-232	1	Anion waste	Blue storage No 3	1200
TA-233-01	2	Whey waste	Blue storage No 4	1200
TA-233-02		Whey waste	Blue storage No 5	1200
TA-234	1	Limestone chips	Limestone chips plant	7
TA-235	1	Deionised Water	Deionised water receiver	227
TA-301	1	Caustic	Demin "Bund"	23
TA-302	1	Anion Water (soft)	Demin "Bund"	55
TA-303	1	Cation Waste (acidic)	Demin "Bund"	36
TA-304	1	Cation rec water	Demin "Bund"	91
TA-305	1	Caustic for Demin	Demin "Bund"	91
TA-306	1	Caustic 2-3%	Tank 4 whey CIP	9
TA-307	1	Acid 1-2%	Tank 3 whey CIP	9
TA-308	1	Recovery water	Tank 2 whey CIP	9
TA-309	1	Water	Tank 1 whey CIP	9
TA-310-01	2	Soft Water for RO/UF	Treated tank 1+2	55
TA-310-02		Soft Water for RO/UF		55
TA-311	1	Whey	RO tank	55
TA-312	1	Acid	Acid recovery Hol 4	23
TA-313	1	Caustic	Caustic recovery	23
TA-314	1	Whey	Whey Demin balance tank	23
TA-315	1	Whey	Holding Tank (spare)	23
TA-316-01	4	Whey	Crystallisation Tank No. 1	23
TA-316-02		Whey	Crystallisation Tank No. 2	23
TA-316-03		Whey	Crystallisation Tank No. 3	23

TA Ref	No.	Contents	Location/Description	Capacity (m ³)
TA-316-04		Whey	Crystallisation Tank No. 4	23
TA-317	1	Acid	Divos 2 Detergent Tank (acidic)	23
TA-318	1	Caustic	Divos 110 Detergent Tank (caustic)	23
TA-319-01	6	Whey	Crystallisation Tank No. 5	23
TA-319-02		Whey	Crystallisation Tank No. 6	23
TA-319-03		Whey	Crystallisation Tank No. 7	23
TA-319-04		Whey	Crystallisation Tank No. 8	23
TA-319-05		Whey	Crystallisation Tank No. 9	23
TA-319-06		Whey	Crystallisation Tank No. 10	23
TA-320	1	Acid	Nitric acid tank	36
TA-321	1	Liquid Nitrogen	Capacity 11,115 litres 6.9 tonnes	11
TA-322	1	Air	Air receiver	14
TA-323	1	Anion	Anion waste	9
TA-324	1	Caustic	Caustic Recovery	14
TA-325-01	4	Whey	Permeate silo No. 1	68
TA-325-02		Whey	Permeate silo No. 2	68
TA-325-03		Whey	Permeate silo No. 3	68
TA-325-04		Whey	Permeate silo No. 4	68
TA-326	1	Hot water	CIP tank cheese	5
TA-327	1	Vegetable oil	Cheese Blend tank	59
TA-328	1	Butter oil	Cheese make up	45
TA-329	1	Caustic	Cheese CIP	5
TA-330	1	Acid	Cheese CIP	5
TA-331	1	Hot water	Preheater circulation tank	5
TA-332	1	Water	Hose Point Tank	9
TA-333	1	Forklift gas fuel	Calor gas tank	18
TA-334	1	Water	Sprinkler System	341
TA-335	1	Forklift gas fuel	Flogas gas tank	7
TA-336	1	White Lorry diesel	Weighbridge (underground)	55
TA-337	1	Petrol	Weighbridge (underground)	9
TA-338	1	Red Tractor Diesel	Green Tank by Weighbridge Pumps	5

Attachment H.2

WASTE HANDLING

**Kerry Ingredients (Ireland) Ltd.
Revised IPPCL Application**

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H.2 Wastes Handling

Kerry Ingredients are involved in the dairy processing industry. The annual throughput at the Listowel plant is greater than 546,000m³ of milk. Milk is processed to produce butter, cheese, casein, skim, whey and milk protein powders. The waste arisings at the plant come under the broad European category of EWC 02 05 Wastes from the Dairy Products Industry.

Despite the large raw material and product throughput, very small quantities of process solid wastes arise. The only solid wastes of volume significance are biological sludges associated with effluent treatment process, together with whey liquors from processing. The remaining solid wastes are packaging wastes generated during the production process.

From an economic viewpoint, loss management control is utilised to prevent or recover as much product as possible but a certain base loss is attributable to each process.

These losses comprise of liquid, protein, minerals, other carbohydrates and fats in varying types and amounts. Due to the large scale of operations with multiple products a huge level of emission variation can occur throughout the annual cycle, which is often unpredictable.

The market place further dictates that the relative distribution of particular products vary considerably from year to year. These factors add to the variability in waste arisings.

All waste handling contractors and waste disposal facilities used by Kerry Ingredients must be fully permitted (by Local Authorities) and or licensed (by the EPA) as relevant. In addition, all transportation of waste materials from the site is undertaken by contractors who have valid Waste Collection permits (WCP) in place. Kerry Ingredients maintain a register of all waste contractors and carry out periodic inspections and checks to ensure that relevant information is up to date.

The following table contains details of all waste contractors used at Kerry Ingredients Listowel:

Table H.2.1 Details of Waste Contractors

Name	Address	Waste Permit No.	Waste Collection Permit No.
Dillon Waste Ltd.	The Kerries, Tralee, Co. Kerry	WP/19/02	WCP/LK/077/02b
Buckley Waste Disposal	Knockenagh, Listowel, Co. Kerry.	WP / 56 / 04 (C & D)	WCP/LK/037/02b
Rehab Recycling T/A Gandon Enterprises	Monahan Road, Cork.	08/04 Cork City Council	WCP/LK/119/03b
MinChem	4 Haddington Terrace, Dun Laoghaire, Co. Dublin	Waste Licence Reg. No. 36.1	WCP/LK/028/02b

Name	Address	Waste Permit No.	Waste Collection Permit No.
Johnston Haulage & Co. Ltd	Rathcoole, Dublin 1	-	WCP/LK/056/02b
Atlas Environmental	Clonminam Ind Estate, Portlaoise, Co. Laois	IPC Reg No. 472	WCP/LK/052/02b
Irish Lamp Recycling Co. Ltd	Blackpark, Kilkenny Rd, Athy, Co. Kildare	02/2000A	WCP/LK/057/02b
Glenoire Waste Paper T/A Glenanere Cartons	Castletownroche. Co. Cork	WP/03/02	WCP/LK/033/02b
JJ Walsh	Main Street, Lixnaw, Co. Kerry	WP/5/00	Buckley Waste WCP/LK/37/02b
Hegarty/Hammond Metal Recycling	Tipperary Road, Ballysimon, Limerick	WP/01/2001	WCP/LK/027/02b
Munster Metals	Clondrinagh Ind. Estate, Ennis Road, Limerick	WPLK 01 A	WCP/LK/003/02b
John Finnerty	Banemore, Listowel Co. Kerry	IPC 393	WCP/LK/113/03b
South of Ireland Waste Management Ltd.	Ballinoe, Tarmons East, Tarbert, Co. Kerry	-	WCP/LK/093/02b
South Coast Transport Ltd.	Corrin, Fermoy, Co. Cork	-	WCP/LK/112/02b
AVR – Safeway Ltd.	Corrin, Fermoy, Co. Cork	HWTS Licence No. 50 - 1	-
Kerry Shredded Paper Services	Tulligmore, Killorglin, Co. Kerry.	WP/12/02	WCP/LK/098/03b
AgriLife Ltd.	Lyre, Lismore, Co. Waterford.	-	WCP/LK/128/03b
Mid West Recycling Ltd.	Ennis, Co. Clare.	001/03/WP/CL	WCP/LK/005/02b
Bob Walsh	Tonreigh, Kielduff, Tralee, Co. Kerry.	-	WCP/LK/180/04b
Eco oil	Crohane, Fossa, Killarney, Co. Kerry.	-	WCP/LK/095/02b

Name	Address	Waste Permit No.	Waste Collection Permit No.
McAuliffe Trucking Ltd.	Fahaduff, Castleisland, Co. Kerry	-	WCP/LK/199/04b
Thomas O'Neill	Derreen, Castleconnell, Co. Limerick	-	WCP/LK/212/04b

H.2.1 Waste Arisings

The waste streams at the site can be broadly categorised under the following headings:

Non Hazardous Waste

- Production Waste (e.g. sludges, whey liquor, powder).
- Packaging Waste (e.g. incoming materials, product packaging, pallets, drums etc).
- General Waste (e.g. office, canteen).
- Coal flyash (from multi-solid fluidised bed boiler A1-6).

Hazardous Waste

- Waste oil from maintenance
- Fluorescent light bulbs.
- Laboratory Waste (e.g. spent reagents, containers).
- Occasional asbestos (on identification and removal as part of construction/demolition).

Sources of Waste

The wastes that arise through the different production processes at the plant are dealt with in a variety of ways. Waste management is based on a hierarchy of Prevention, Minimisation, Recycling and Safe Disposal. The following list briefly summarises solid waste management practices followed at the plant:

- Pallets are sanitised and/or re-used.
- When a batch of packaging material is found to be unsatisfactory, then the material is rejected and returned to the supplier.
- Torn bags, plastic, damaged foil other debris is picked up, put into rubbish bags and disposed of to landfill. This includes hairnets and shoe covers.
- Ceilings, walls, etc. are cleaned down regularly. Dust/dirt, debris, etc. is swept up, put into rubbish bags and disposed of to landfill.
- Particulate filters are changed regularly. All waste, e.g. foreign matter or old filters are put into rubbish bags and disposed of to landfill.
- Major leaks of product from driers to the surrounding atmosphere due to a breakdown/other malfunction in the plant, usually end up on the floor and are recovered to industrial sacks as soon as possible.

H.2.2 Waste Storage

Non- Hazardous Waste

Non-Hazardous wastes generated on site are stored in bins and skips, which are located at a number of locations internally and externally.

Hazardous Waste

Waste oils are stored externally in steel drums.

Fluorescent bulbs are stored internally, in a designated area.

Laboratory chemicals are collected in designated containers for subsequent specialist disposal.

Occasional asbestos waste is handled in accordance with recognised procedures for the collection bagging and disposal of this material and in accordance with Agency approvals.

H.2.3 Periods of Generation

The grass based milk production cycle leads to significant peak to valley ratios from winter milk low to late spring/summer highs. The waste cycle at the plant is dependant upon the seasonal production of the dairy industry.

Owing to reduced milk handling and lower processing intensity during the winter months, and corresponding decreases in waste water treatment plant flows, the quantities of sludge generated tend to be reduced between November and February.

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Appendix H.2.1
Summary Waste Information

Appendix H2.1 Summary Waste Information

E W C Code	Hazardous (Yes/No)	Description of Waste	Quantity (t/year)	Disposal/ Recovery Code	Location of Disposal/ Recovery	Name of Waste Disposal Recovery Contractor	Licence / Permit Reference for Treatment Facility
02 05 01	No	Materials unsuitable for consumption or processing. <i>(Whey by-product)</i>	19352	R3 Recycling/reclamation of organic substances, which are not used as solvents. <i>(Reuse of whey by-product as animal feed.)</i>	(b) Off-site Ireland	SoIWM, Tarbert, Co. Kerry. , Tarbert, Co. Kerry. Agrilife Ltd., Lismore, Co. Waterford McAuliffe Trucking, Castleisland, Co. Kerry	WCP/LK/093/02b WCP/LK/128/03b WCP/LK/199/04b
02 05 02	No	Sludges from on-site effluent treatment	21419	R10 Land treatment resulting in benefit to agriculture or ecological improvement	(b) Off-site Ireland	SoIWM, Tarbert, Co. Kerry, Agrilife Ltd., Lismore	WCP/LK/093/02b WCP/LK/128/03b
10 01 02	No	Coal fly ash	8821	D1 Deposit on, in or under land.	(a) On-site	J. Finnerty, Listowel, Co. Kerry,	WCP/LK/113/03b IPC Licence No. 353
20 03 01	No	Mixed municipal waste	1333	D1 Deposit on, in or under land.	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02
20 01 08	No	Biodegradable kitchen and canteen waste	35	D1 Deposit on, in or under land.	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02

E W C Code	Hazardous (Yes/No)	Description of Waste	Quantity (t/year)	Disposal/ Recovery Code	Location of Disposal/ Recovery	Name of Waste Disposal Recovery Contractor	Licence / Permit Reference for Treatment Facility
15 01 01	No	Paper and cardboard packaging	420	R11 Uses of residual materials obtained from any of the operations numbered R1-R10	(b) Off-site Ireland	Repak, via Glenoire Waste Paper Ltd. T/A Glenanere Cartons Castletownroche, Co. Cork	WP/03/02 WCP/LK/1033/02b
20 01 39	No	Plastics	53	R5 Recycling/reclamation of other inorganic materials	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Co. Kerry	WCP/LK/077/02b
17 04 02	No	Aluminium	0.2	R4 Recycling/reclamation of metals and metal compounds	(c) Off-site Abroad	Rehab Recycling Partnership, Monaghan Road, Cork City Munster Metals, Clondrinagh Ind. Est, Ennis Rd., Limerick. JJ Walsh, Lixnaw, Co. Kerry.	WCP/LK/119/03b WCP/LK/003/02b WP/5/00 WCP/LK/037/02b
20 01 02	No	Glass	3.6	R4 Recycling/reclamation of metals and metal compounds	(b) Off-site Ireland	Rehab Recycling Partnership, Monaghan Road, Cork City	WCP/LK/119/03b
20 01 40	No	Metals	137	R4 Recycling/reclamation of metals and metal compounds	(b) Off-site Ireland	JJ Walsh Hegarty Metal Recycling Munster Metals	WP/5/00 WCP/LK/037/02b WCP/LK/003/02b

E W C Code	Hazardous (Yes/No)	Description of Waste	Quantity (t/year)	Disposal/ Recovery Code	Location of Disposal/ Recovery	Name of Waste Disposal Recovery Contractor	Licence / Permit Reference for Treatment Facility
20 01 25	No	Canteen Oils	0.06	R3 Recycling/reclamation of organic substances, which are not used as solvents.	(b) Off-site Ireland	Ecofuels, Crohne Fossa, Killarney, Co Kerry	WCP/LK/095/02b
15 01 02	No	Plastic packaging	0.1	D1 Deposit on, in or under land.	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02
20 01 01	No	Paper and cardboard	20	D1 Deposit on, in or under land.	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02
20 01 01	No	Paper	7.5	R5 Recycling/reclamation of other inorganic materials	(b) Off-site Ireland	Used as animal bedding by company employees.	
02 05 99	No	Wastes not otherwise specified	15	D1 Deposit on, in or under land.	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02
20 01 39	No	Plastics	75	R5 Recycling/reclamation of other inorganic materials	(b) Off-site Ireland	Returned to suppliers	
20 01 38	No	Wood other than that mentioned in 20 01 37	79	R3 Recycling/reclamation of organic substances which are not used as solvents	(b) Off-site Ireland	Dillon Waste Disposal, Tralee, Buckley Waste Disposal Listowel	WCP/LK/077/02b WCP/LK/037/02b WP/19/02

E W C Code	Hazardous (Yes/No)	Description of Waste	Quantity (t/year)	Disposal/ Recovery Code	Location of Disposal/ Recovery	Name of Waste Disposal Recovery Contractor	Licence / Permit Reference for Treatment Facility
16 05 08*	Yes	Discarded organic chemicals consisting of or containing dangerous substances	1.1	D15 Storage pending any of the operations numbered D1-D12	(b) Off-site Ireland	Minchem Environmental Services Ltd.	Waste Licence Reg. No. 36.1
20 01 21*	Yes	Fluorescent tubes and other mercury-containing waste	0.28	R3 Recycling/reclamation of organic substances which are not used as solvents	(b) Off-site Ireland	Irish Lamp Recycling	WP/02/2000 WCP/LK/57/02b
16 07 08*	Yes	Wastes containing oil	23.4	R9 Used oil re-refining or other reuses of previously used oil	(b) Off-site Ireland	Atlas Environmental, Portlaoise, Co. Laois	IPC Reg. No. 472 WCP/LK/052/02b
17 06 05*	Yes	Asbestos ceiling tiles	12	D5 Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.)	(c) Off-site Abroad	AVR – Safeway Ltd. Corrin, Fermoy, Co. Cork	HWTS Licence No. 50 - 1
16 06 01*	Yes	Lead batteries.	-	R4 Recycling/reclamation of metals and metal compounds	(b) Off-site Ireland	Atlas Environmental, Portlaoise, Co. Laois	IPC Reg. No. 472 WCP/LK/052/02b
16 02 16	No	Components removed from discarded equipment other than those mentioned in 16 02 12.	-	R4 Recycling/reclamation of metals and metal compounds	(b) Off-site Ireland	Midwest Recycling, Ennis, Co. Clare	WCP/LK/005/02b