

ANNUAL ENVIRONMENTAL REPORT

2018

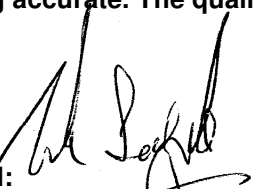
FOR
SunChemical Inks Ltd.,
Palmerstown

IPC License 241

For inspection purposes only. No other use.
Consent of copyright owner required for any other use.

“All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements;”

Signed:


Mark Sedgwick
EHS Manager Northern Europe

Date: 28/03/2019

1.	Introduction.....	3
	Company Details	
2.	Site Description.....	3
	Previous site histories	
	Company Background	
	Description of Equipment	
	Manufacturing Process	
	Company Organisation	
3.	Summary Information.....	5
	Self-monitoring Data	
	<i>Emissions to Waters / Sewer</i>	
	<i>Emissions to Atmosphere</i>	
	<i>Waste Management</i>	
	Agency Monitoring and Enforcement	
	Energy and Water Consumption	
	<i>Energy Consumption for 2017</i>	
	<i>Water Consumption for 2017</i>	
	Environmental Incidents and Complaints	
	<i>Environmental Incidents</i>	
	<i>Complaints</i>	
4.	Management of the Activity.....	9
	Schedule of Environmental Objectives and Targets	
	Environmental Management Programme Report	
	Environmental Management Program	
5.	Licence Specific Reports.....	11

1. INTRODUCTION

Company Details

Company	SunChemical Inks, Ltd.
Address	Glenside House, Mill Lane
Town	Palmerstown
County / City	Dublin 20
Business	Printing Ink Manufacture
Employees	15
Contact Name	Mark Sedgwick
Position	EHS Manager Northern Europe
Telephone	01-6206868
Fax	01-6262573
Email	mark.sedgwick@sunchemical.com

2. SITE DESCRIPTION

Previous Site Histories

The Glenside Mill originally housed a furniture factory after a period as a mill. Ink production commenced on site in 1934.

Company Background

The Company is a wholly owned subsidiary of Dainippon Ink and Chemicals, Japan. Sun Chemical continues to be the largest supplier of printing inks in the world, distributing printing inks and varnishes for use in a wide variety of printing and packaging applications and is the only multinational solely dedicated to supplying this sector of the graphic arts industry.

Description of Equipment

The following pieces of equipment and machinery are involved in the manufacturing process:

Paste Ink:

(The blending of oil-based, UV and screen inks)

4X1-10Kg Blending Mixers

2x50 Kg Mixers

1xVacuum Packer / crimper

Waterbased Blending

1xSussmeyer 25hp Stirrer

3x10hp Stirrer

1x5hp Stirrer

Solventbased Blending:

1xInkmake Dispenser System 33 pump

1x20hp Stirrers
1x2.5hp Stirrers
1x3 Roll Mill

Manufacturing Process

There are two main types of product made at this site. A brief description of each process is given below:

Liquid Ink.

This process involves blending a mixture of brought in base inks into a final product. This may be either solvent or water based materials. Components are weighed, added to a mixing vessel and homogenised using an appropriate stirrer.

The inks are then tested for shade, gloss, strength etc. Upon approval inks are then either filtered through a closed pump/sieve unit prior to packaging in an appropriate plastic or metal container, or packaged directly.

Paste Ink.

This process involves the blending of oil based (mineral and vegetable) or UV curing acrylate resin based inks into a final product. Finishing and potting is as above except for filtration (not required).

Screen inks are also now manufactured on site and are a blend of paste and liquid technologies

Company Organisation

The main site responsibilities are as follows:

Function	Name
Site Manager / Environmental Officer	Mark Sedgwick
Shift Manager	Martin McDonnell

3. SUMMARY INFORMATION

Self-monitoring Data

Emissions to Surface Water / Sewer. *Emission Point SW-2*

Date	Lab ID	BOD	COD	pH	Suspended Solids	Cond, uS/cm	TOC	Temp °C	Comments
Warning Levels		10-12	45						
Action Levels:		25	60						
2018									
22.11.18	152044	2	6	7.4	<2	78	<1.0	9	Q4
21.08.18	149655	<2	9	6.9	1	98	4.7	20	Q3
16.05.18	147351	3	12	7.2	3	133	5.9	14	Q2
09.02.18	144579	4	10	7.0	7	130	<1.0	6	Q1

Sun Chemical have an interceptor tank for rainwater run-off and for spillage capture, should there be an incident from a burst barrel or transport mishap. The interceptor is kept covered and checked visually on a daily basis and prior to the release of water. Independent testing is carried out on a quarterly basis against license parameters. No flow is measured as there is no process water or other going to the tank. Tank capacity is 1.4m³.

Four spot-checks were carried out in 2018, by Tellabs, our independent contractor. All results were within license limits. One EPA check was conducted and all results were in compliance with license requirements.

Emissions to Atmosphere. *Emission Point A2-1*

Emissions to atmosphere are measured by an independent, agreed contractor, on a quarterly basis. See table below for a summary of results received during 2018. All results were compliant with license requirements.

Measured Concentration (mg/m3)	Emission Limit Value (mg/m3)	Measured Mass Flow Rate (Kg/Hr)	Measured Volume Flow (Nm3 /Hr)	Mass Flow Limit (Kg/Hr)	Maximum Volume Limit (Nm3 /Hr)	Report Reference and Link	Period
2018							
15.67	150	0.029	1901	6	10400	1226-46 v1.00	Q4
15.68	150	0.046	2955	6	10400	1226-45 v1.00	Q3
16.10	150	0.043	2687	6	10400	1226-44 v1.00	Q2
9.71	150	0.029	3055	6	10400	1226-43 v1.00	Q1

Waste Management

Waste details are recorded in the reports section

Agency Monitoring and Enforcement

There was one site monitoring visits by the Agency during 2018, one for surface water. All results were in compliance with license requirements

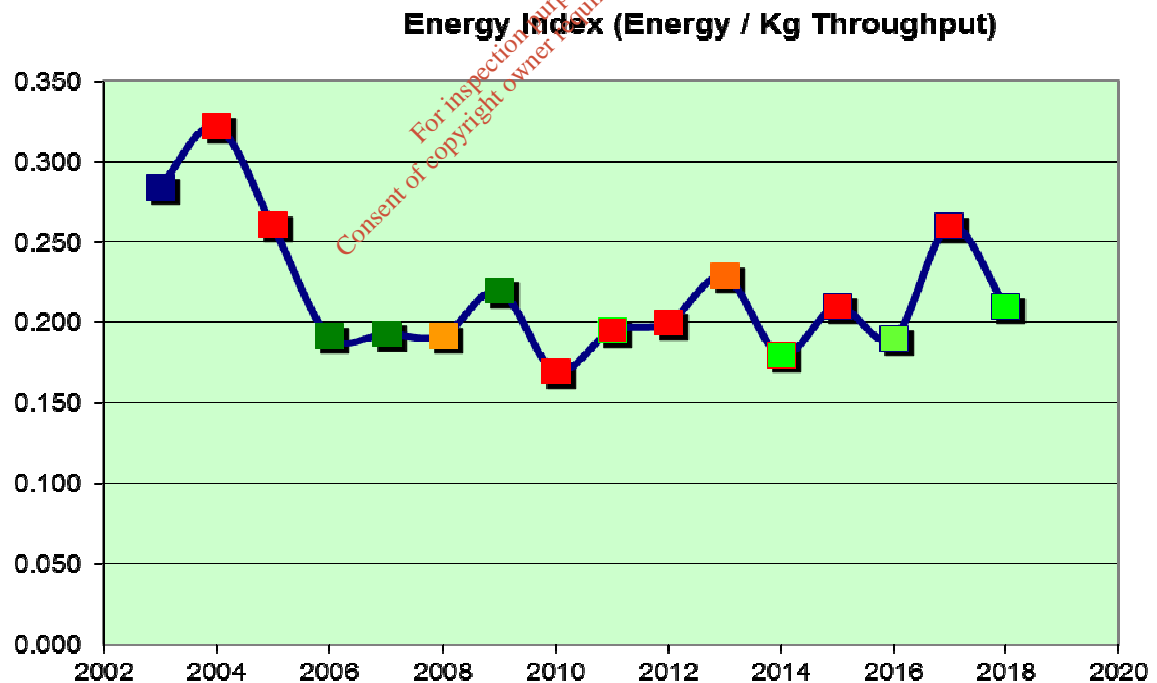
Energy and Water Consumption

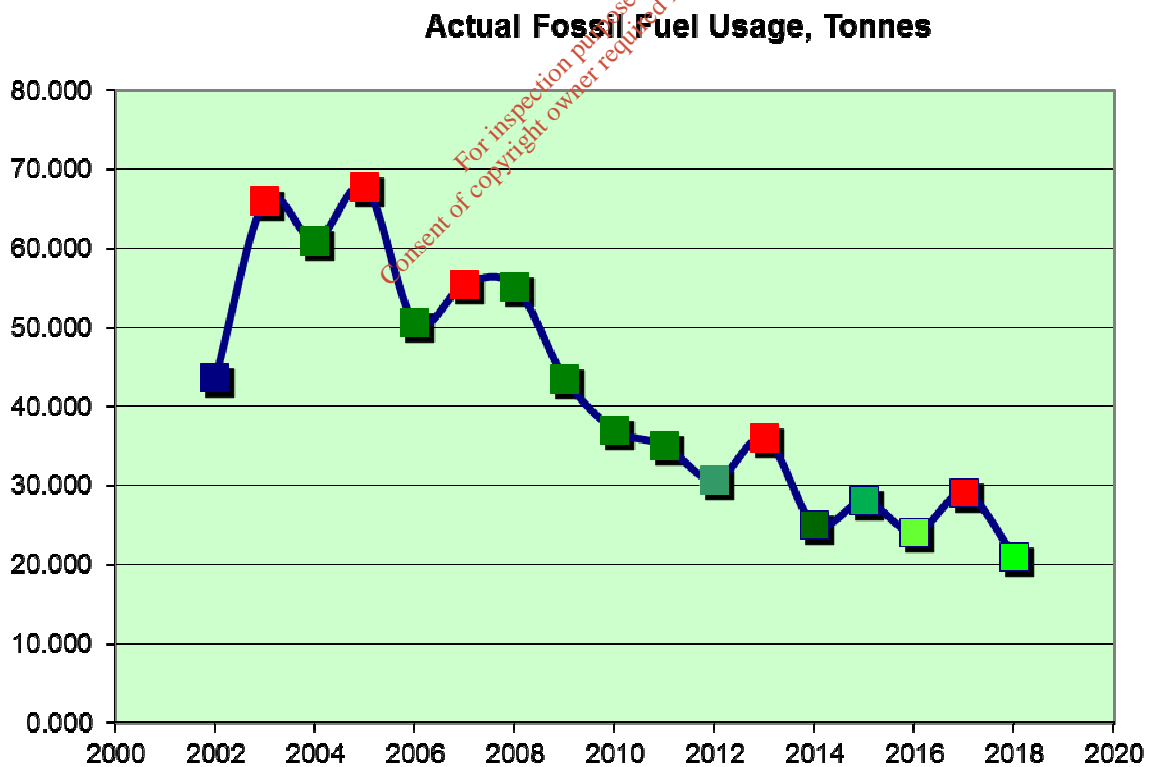
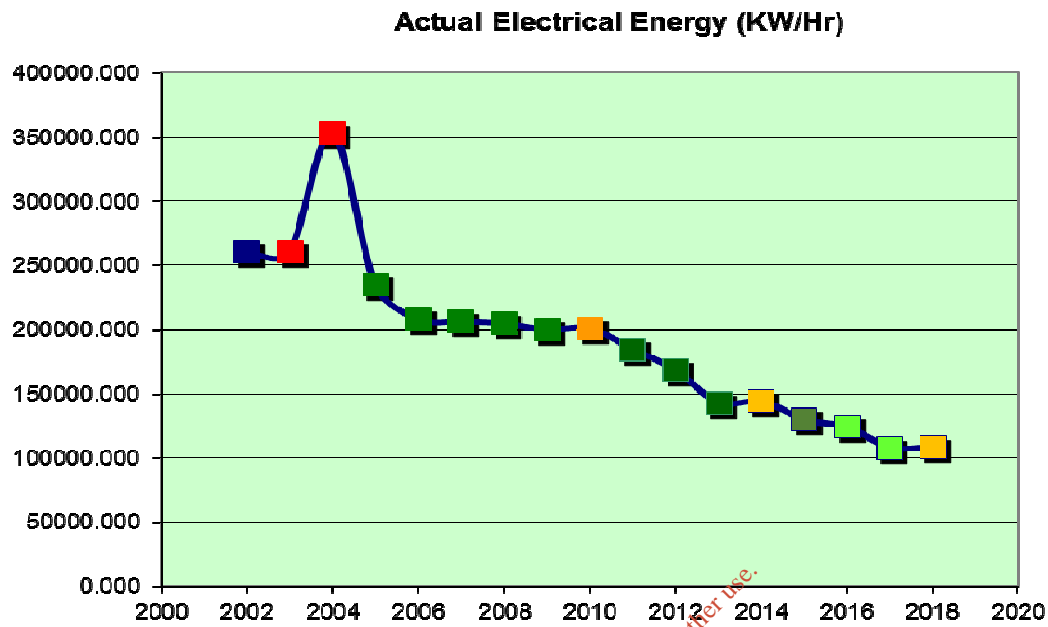
The Company has established further energy monitoring and reduction programs during 2018, however, an increase in some productions has lead to an overall slight increase in energy usage on site. An air compressor problem identified late in the year also had an impact on energy

3.3.1 Energy Consumption Summary:

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Kgs Throughput	4147609	3153000	3710000	2854311	2497198	2384520	2381546	2143604	2073974	1700559	1657139
Fuel Litres	55200	43538	37052	35050	30614	36715	25000	28900	24000	29485	21000
Converted to kWh	593250	491979	418688	396065	345938	414882	282500	326570	271200	333181	237301
Electricity, kWh	204720	199518	200582	184354	163930	142660	143820	129540	123840	107760	108465
Total Energy Used kWh	797970	691497	619270	580419	509868	557542	426320	456110	395040	440941	345766
Energy Index	0.19	0.22	0.17	0.20	0.20	0.23	0.18	0.21	0.19	0.26	0.21

Energy versus Kg throughput has been calculated to determine the overall trend in energy usage.





3.3.2. Water Consumption

2008 M ³	2009 M ³	2010 M ³	2011 M ³	2012 M ³	2013 M ³	2014 M ³	2015 M ³	2016 M ³	2017 M ³	2017 M ³
190	186	177	165	148	204	210	212	450	452	442

The significant increase follows changes from SDCC to Irish Water and associated metering.

Water is taken from the district water supply for use in the toilets, canteen and laboratory. Product incorporated water amounted to 66.4 in 2018, used in the manufacture of water-based inks (a 9.1% increase on the previous year).

Environmental Incidents and Complaints

There were no environmental incidents during 2018. Neither was any complaint received from the public, local businesses, or any official body, or reported to the Agency in respect of Sun Chemical.

For inspection purposes only.
Consent of copyright owner required for any other use.

4. MANAGEMENT OF THE ACTIVITY

4.1 Schedule of Environmental Objectives and Targets 2019

The following table is a schedule of objectives and targets that have been set out by SunChemical, in order to reduce any environmental impacts and improve environmental

practices. The program was decided and accepted at the Annual Environmental Review held in February 2019 and was based on the critical aspects and impacts of the business on the environment.

No.	Issue/Aspect	Action Plans	Responsible	By
Energy 1	Fossil Fuel usage (heating oil)	1. Enclose Screen cell to conserve heat 2. Conduct Energy Awareness training 3. Target energy reduction of 5% over 2018 through turn-off turn down program (-€1.5k) Target no increase in domestic water consumption	MS PG MS	1. Q1 2019 2. Q2 2019 3. Q4 2019
RM1	Water Consumption	Carry out water conservation refresher	MS PG	Q4 2019
Waste 1	Packaging waste Plastic, Metal, Paper/cardboard, Wood	1. Carry out Workplace Environmental Training / Waste Minimisation	MS	Q2 2019
ENV 04		Maintain ISO 14001:2015	MS	Q2 2019
ENV 05		Ensure zero environmental complaints	All	YE 2019
ENV 06		Maintain zero accidental releases	All	YE 2019

4.2 Environmental Management Programme Report 2018

The following outcomes against Environmental Objectives 2018 have been achieved

No.	Issue/Aspect	Action Plans	Responsible	By
Energy 1	Fossil Fuel usage (heating oil)	1. Replace burner in L.B. Boiler. (est €1200) 2. Conduct Energy Awareness training (SBL) 3. Target energy reduction of 5% over 2017 through turn-off turn down program (-€1.5k)	MM MS MS	1. Q1 2018 2. Q2 2018 3. Q4 2018
Air 1	Fugitive VOC emissions from mixing solvent inks Source (vent)	1. Review use, storage and requirements of Sigmatherm Varnish to reduce handling / mixing of product and reduce VOC	PC	Q2 2018
Air 2	emissions from liquid ink building Electrical	As Above		
Energy 2	Energy, Compressor / compressed air	Get quote to complete work. Evaluate likely savings against fuel usage.	MS	Q3 2018
RM 2	Fossil Fuels (incl use as Raw Material feedstock)	1. See Energy target above 2. Ensure new vans energy efficient (5L/100km) 3. Facilitate switch to WB from SB at AB Convertors (67 Tonnes of VOC Materials incl 12 Tonnes manufactured)	MS MS PC	1. Q4 2018 2. Q1 2018 3. Q1 2018
Waste 1	Packaging waste Plastic, Metal, Paper/cardboard, Wood	1. Carry out Workplace Environmental Training / Waste Minimisation	MS	Q2 2018

Target 1. Waste increased considerably, mostly due to increased office restructuring

4.3 Further Comment

2018 saw another significant reduction in solvent based inks with the volume being directly replaced at customers by waterbased equivalents.

5. LICENCE SPECIFIC REPORTS

The following reports are included as required by the terms of the Licence:

- Noise Survey (submitted through Eden)
- Waste Details
- Bund Inspections (submitted through Eden)

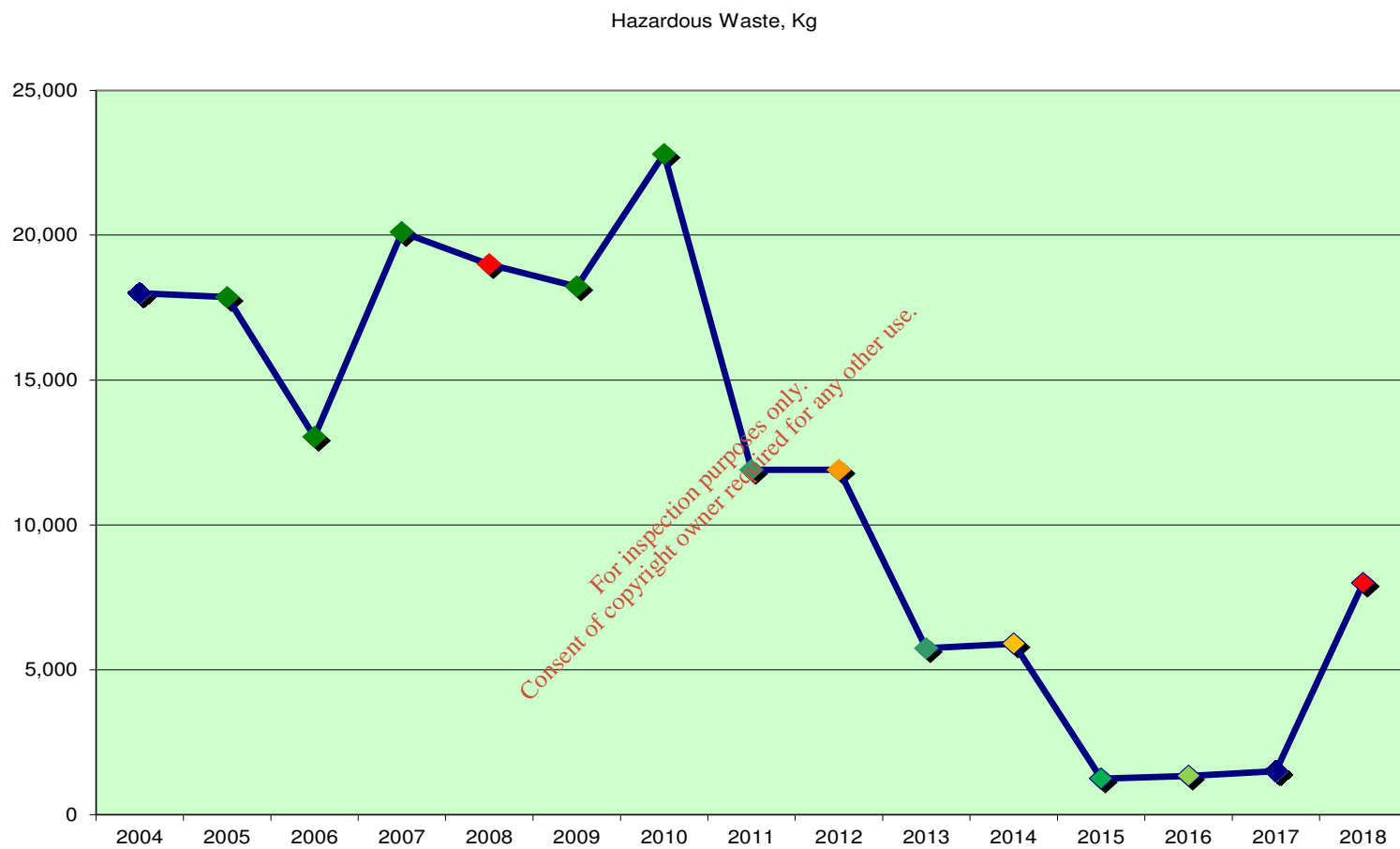
For inspection purposes only.
Consent of copyright owner required for any other use.

Waste Details Report

Waste	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total quantity of waste produced in calendar year(Tonnes)	47	47	43.7	43.7	18.4	17.6	12.6	13.5	15.9	21.07
total quantity of waste disposed of on-site	0	0	0	0	0	0	0	0	0	0
total quantity of waste disposed of off-site	31	34	36.9	36.9	13.8	13.2	8.6	10.3	11.9	16.9
total quantity of waste recovered on-site	0	0	0	0	0	0	0	0	0	0
total quantity of waste recovered off-site	16	13	6.8	6.8	4.6	4.4	4.0	3.2	4.0	4.1
	2009	2010	2011	2012	2013	2014	2015			
Quantity of non-hazardous waste produced in calendar year	28	23.9	31.8	31.8	13.8	11.7	11.3	12.2	14.4	13.1
quantity of non-hazardous waste disposed of on-site	0	0	0	0	0	0	0	0	0	0

quantity of non-hazardous waste disposed of off-site	12.0	10.9	25.0	25.0	9.2	7.3	7.3	8.9	10.4	9.1
quantity of non-hazardous waste recovered on-site	0	0	0	0	0	0	0	0	0	0
quantity of non-hazardous waste recovered off-site	16	13.0	6.8	6.8	4.6	4.4	4.0	3.2	4.0	4.1
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Quantity of hazardous waste produced in calendar year (Tonnes)	19.0	22.8	11.9	11.9	5.7	5.9	1.3	1.3	1.5	8.0
quantity of hazardous waste disposed of on-site	0	0	0	0	0	0	0	0	0	0
quantity of hazardous waste disposed of off-site	19.0	22.8	11.9	11.9	5.7	5.9	1.3	1.3	1.5	8.0
quantity of hazardous waste recovered on-site	0	0	0	0	0	0	0	0	0	0
quantity of hazardous waste recovered off-site	0	0	0	0	0	0	0	0	0	0

For inspection purposes only.
Consent of copyright owner required for any other use.



List of Waste (LoW)				Next Destination		Final Destination	
LoW Code	LoW Description	Classification	Quantity of waste Tonnes / year	Organisation	Waste Treatment Operation	Organisation	Waste Treatment Operation
15 01 04	metallic packaging	-	4.16	The Hammond Lane Metal Company Limited - P1002	R04 - Recycling/reclamation of metals and metal compounds	-	
15 01 06	mixed packaging	-	7.08	Rilta Environmental Limited - W0192	D01 - Deposit into or on to land (e.g. landfill, etc.)	-	
11 01 14	degreasing wastes other than those mentioned in 11 01 13	-	1.83	Safety Kleen Ireland Ltd - W0099	D10 - Incineration on land	-	
08 03 12*	waste ink containing hazardous substances	Hazardous	8.00	Rilta Environmental Limited - W0192	D15 - Storage pending any of the operations numbered D 1 to D 14 (excluding temporary storage, pending collection, on the site where the waste is produced)	Afvalstoffen Terminal Moerdijk BV	D10 - Incineration on land

For inspection purposes only.
Consent of copyright owner required for any other use.

For inspection purposes only.
Consent of copyright owner required for any other use.

For inspection purposes only.
Consent of copyright owner required for any other use.