

Single Case End-of-Waste decision Art28-0092
of 8th July 2025
establishing criteria determining when recovered solvents produced by
Soltec Ltd. of Zone C, Mullingar Business Park, Mullingar, Co. Westmeath N91 VR60
ceases to be waste
under Regulation 28 of the European Union (Waste Directive) Regulations 2011 – 2020

Section 1

Subject matter

Art28-0092 establishes criteria determining when recovered solvents resulting from a recovery operation ceases to be waste.

These criteria do not:

- affect the obligation of the producer to hold and comply with a waste collection permit, certificate of registration, waste facility permit, waste/ industrial emissions licence or any other National or European legislation which may apply when transporting, handling, storing or processing waste;
- affect permitting or any other legal requirements that do not depend on the status of the material as a waste; and
- negate the producers or users statutory obligations or requirements under any other authorisations (including planning permission), enactments or regulations.

The Environmental Protection Agency (herein referred to as the Agency) accepts no responsibility for material produced in compliance with these criteria. It is the producer's responsibility to ultimately ensure the material is fit for the intended use. It is the user's responsibility to store and use the material as specified by the producer. Any person who gives either to an authorised person, a relevant local authority or the Agency, information which to his or her knowledge is false or misleading in a material respect, shall be guilty of an offence under the Waste Management Act 1996 (End-of-waste) Regulations 2024.

Section 2

Definitions

For the purposes of this Decision, the definitions set out in the European Union (Waste Directive) Regulations 2011 – 2020 and Waste Management Act 1996, as amended shall apply.

In addition, the following definitions/ interpretations shall apply:

- (1) 'applicant' is Soltec Ireland Limited, Mullingar Business Park, Mullingar, Co. Westmeath;
- (2) 'authorised waste facility' means a facility which has been granted a waste authorisation in the form of an Industrial Emissions licence, a waste licence, a waste facility permit or a certificate of registration;
- (3) 'batch' is defined as a single production quantity of material processed under uniform conditions in one stainless steel recovery tank. The maximum allowable batch size is limited to 55 m³;
- (4) 'consignment' means a delivery quantity of recovered solvents which leave the production facility and may be contained in either one or several transport units;
- (5) 'CLP' means Classification, Labelling and Packaging: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008;
- (6) 'competent authority' means any of the following: the Environmental Protection Agency (hereafter referred to as the Agency); a local authority, the National Waste Collection Permit Office, the Health and Safety Authority; the National Transfrontier Shipments of Waste Office, National Building Control and Market Surveillance Office; Transport Infrastructure Ireland, Geological Survey Ireland, Competition and Consumer Protection Commission, Food Safety Authority of Ireland or any other National or Irish governmental regulation body who may need to assess compliance with these criteria or any associated activity;
- (7) 'holder' means the natural or legal person who is in possession of recovered solvents;

- (8) 'management system certification body' is a body which has an accreditation certificate issued by the Irish National Accreditation Board (INAB), or equivalent European accreditation body, to undertake quality management system certification to an approved standard;
- (9) 'producer' means the waste operator who produces the recovered solvents under a waste authorisation;
- (10) 'qualified person' means suitably qualified, trained and experienced person who has the requisite knowledge and experience required for sampling, testing and waste characterisation;
- (11) 'qualified staff' means staff which are qualified by experience or training to monitor and assess the properties of recovered solvents;
- (12) 'REACH' means Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals;
- (13) 'recovery operation' has the same meaning as 'waste recovery activity' assigned in the Waste Management Act 1996, as amended;
- (14) 'specified use' means the suitable specific circumstances, as declared in the statement of conformity, under which the recovered solvents can be used;
- (15) 'statement of conformity' means a statement/declaration that the recovered solvents conform to end-of-waste criteria, product standards and specifications, and includes details of restrictions on the use of the recovered solvents;
- (16) 'user' means manufacturers, supply companies, contractors and all those organisations or individuals responsible for the end use of the product; and
- (17) 'visual inspection' means inspection using human senses or any non-specialised equipment.
- (18) 'waste' is as defined in the Waste Management Act 1996 as amended.

The list of definitions and interpretations above is intended to assist understanding of these criteria and does not purport to be a legal interpretation of said terms.

Section 3

Criteria for recovered solvents

1. Recovered solvents shall cease to be waste where all of the following conditions are demonstrated as fulfilled:
 - (a) the recovered solvents result from a recovery operation undertaken under an appropriate waste authorisation;
 - (b) the waste used as input for the recovery operation complies with the criteria set out in Part 1 of Annex I;
 - (c) the waste used as input for the recovery operation has been treated in accordance with the criteria set out in Part 2 of Annex I;
 - (d) the quality of the recovered solvents complies with the criteria set out in Part 3 of Annex I,
 - (e) the producer has satisfied sampling and testing requirements set out in Part 4 of Annex I, in relation to each batch;
 - (f) the producer has satisfied storage requirements set out in Part 5 of Annex I;
 - (g) the producer has satisfied requirements set out in Sections 4 to 6;
 - (h) the producer has satisfied requirements within any guidance issued by the Agency in relation to these criteria.

Section 4

Specific uses & restrictions on use

1. Recovered solvents fulfilling the criteria set out in Section 3 shall only be specified in the statement of conformity as suitable for use for purposes listed in Part 1 of Annex II.
2. The restrictions on use as listed in Part 2 of Annex II shall be specified in the statement of conformity.

*Section 5***Statement of conformity**

1. The producer shall issue a statement of conformity using the template set out in Annex III for each batch or consignment of recovered solvents, whichever is of smaller quantity.
2. The statement of conformity shall be issued as documented evidence that the recovered solvents meet these criteria and that the material ceases to be waste.
3. The statement of conformity shall state the suitable specific use(s) for the recovered solvents and any associated restrictions as set out in Section 4.
4. The producer shall transmit the statement of conformity to the next holder of the recovered solvents. The producer shall retain a copy of the statement of conformity for a minimum of 5 years after its date of issue and shall make it available to competent authorities upon request.
5. The statement of conformity may be in electronic form.
6. The producer shall give competent authorities access to the statements of conformity upon request.
7. A safety data sheet of the recovered solvents shall be included in the statement of conformity.

*Section 6***Management system**

1. The producer shall implement a management system suitable to demonstrate compliance with the criteria referred to in Sections 3 to 5, and specific monitoring requirements set out in Annex I for each criterion.
2. The management system shall include a set of documented Quality Control (QC) Procedures concerning each of the following aspects:
 - (a) acceptance control and quantification of waste used as input for the recovery operation as set out in Part 1 of Annex I, including quarantine, segregation, and control of non-conforming waste inputs;
 - (b) due diligence assessment (knowledge of inputs), including assessment of inputs for potential contamination for pollutants beyond those listed in Table 2 of Annex I; This shall include, in particular, an assessment for the presence of active pharmaceutical ingredients (APIs) and other hazardous constituents associated with pharmaceutical and medical device manufacturing and the automotive industry.
 - (c) monitoring of the treatment processes and techniques described in Part 2 of Annex I;
 - (d) monitoring of the quality of recovered solvents resulting from the recovery operation as set out in Parts 3 & 4 of Annex I (including sampling and testing);
 - (e) storage of recovered solvents as set out in Part 5 of Annex I;
 - (f) completion and sign-off of a statement of conformity as set out in Annex III;
 - (g) quarantine, segregation, control and quantification of non-conforming outputs from the recovery process;
 - (h) feedback from customers or product accreditation body concerning compliance with recovered solvents quality, including assessment, investigation, corrective actioning and tracking of non-conformance reports;
 - (i) record keeping of the results of monitoring conducted under points (a) to (i). All records including controls, inspections and training shall be maintained for a minimum of 5 years, which may include electronic records;
 - (j) review and improvement of the management system;
 - (k) training of staff on all aspects of the criteria including the sampling, testing, treatment system, monitoring, control and record keeping.
3. The management system shall be certified by a Management System Certification Body accredited by the Irish National Accreditation Board, or equivalent European accreditation body. This certification shall verify that the management system complies with the requirements of this Section. The verification shall be carried out annually.
4. The producer shall maintain records of the quantities of:
 - (a) waste used as input for the recovery operation per list of waste code;

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- (b) recovered solvents that have been recovered and can be demonstrated to meet these criteria;
 - (c) recovered solvents which meet these criteria and have been dispatched;
 - (d) non-conforming outputs from the recovery operation; and
 - (e) any non-conforming outputs reintroduced into the recovery operation.
5. The producer shall make available on request by the competent authorities the management system and records for inspection.

Section 7

Entry into effect

Single case End-of-Waste Criteria No. Art28-0092 shall be available for use immediately following publication on the Agency's website.

Section 8

Compliance

The producer or holder of recovered solvents shall comply with any request made by a competent authority in relation to the provision of evidence of compliance with these criteria or any associated waste, product, or health and safety requirements.

Any person who gives either to an authorised person, a relevant local authority or the Agency, information which to his or her knowledge is false or misleading in a material respect, shall be guilty of an offence under the Waste Management Act 1996 (End-of-waste) Regulations 2024.

ANNEX I

Criteria for Recovered Solvents

Part 1. Waste used as input for the recovery operation

Criteria		Self-monitoring requirements
1.1	Inputs shall be restricted to the list of waste codes specified in Table 1.	Acceptance control of all waste received (by visual inspection) and of the accompanying documentation shall be carried out by qualified staff which are trained on how to recognise waste that does not fulfil the criteria set out in this section.
1.2	<p>All incoming waste shall meet the incoming waste acceptance criteria of the waste authorisation under which the recovered solvents are produced and shall be subject to acceptance procedures as per Soltec's internal QC procedure WI-069 and documented in QC RS10.1. This includes, but not limited to:</p> <ul style="list-style-type: none"> • Visual inspection • Screening for pH, density, solids, and solvent content • Gas chromatography (GC) analysis 	
1.3	Each load of waste input shall be assigned a unique identifier.	Where visual inspection or due diligence assessment raises any suspicion of possible hazardous properties or contamination, further appropriate monitoring measures shall be taken, such as sampling and testing where appropriate. The staff shall be trained on potential hazardous properties or contamination that may be associated with waste solvents and on material components or features that indicate these properties.
1.4	Non-conforming waste shall be quarantined and managed in accordance with Soltec's QMS and internal procedures	
1.5	A full characterisation of the five primary waste inputs shall be conducted prior to waste acceptance from the source sites and on an annual basis thereafter. This characterisation shall include screening for specific parameters arising from due diligence carried out in accordance with Section 6, 2(b). Soltec will advise the EPA of any changes that affect the EoW decision.	Non-conforming waste shall be managed in accordance with quarantine requirements specified in the waste authorisation.
		The producer shall regularly review and revise QC procedures to ensure they reflect current standards and operational requirements.

Table 1: Allowable inputs (5 primary inputs in Bold)

LoW Code / Description	LoW Code / Description
02 07 02 wastes from spirits distillation	09 01 03* solvent-based developer solutions
04 02 14* wastes from finishing containing organic solvents	11 01 13* degreasing wastes containing dangerous substances
07 01 04* other organic solvents, washing liquids and mother liquors	14 06 02* other halogenated solvents and solvents mixtures
07 02 04* other organic solvents, washing liquids and mother liquors	14 06 03* other solvents and solvent mixtures
07 03 04* other organic solvents, washing liquids and mother liquors	16 03 05* organic wastes containing dangerous substances
07 04 04* other organic solvents, washing liquids and mother liquors	16 05 06* laboratory chemicals, consisting of or containing dangerous substances
07 05 04* wastes from the manufacture, formulation, supply and use (MFSU) of pharmaceuticals: other organic solvents, washing liquids and mother liquors	16 05 07* discarded inorganic chemicals consisting of or containing dangerous substances
07 06 04* other organic solvents, washing liquids and mother liquors	16 05 08* discarded organic chemicals consisting of or containing dangerous substances
07 07 04* Wastes from the MFSU of fine chemicals and chemical products not otherwise specified: other organic solvents, washing liquids and mother liquors	16 07 09* wastes containing other dangerous substances
08 01 11* waste paint and varnish containing organic solvents or other dangerous substances.	18 01 06* chemicals consisting of or containing dangerous substances
08 01 12 waste paint and varnish other than those mentioned in 08 01 11	18 02 05* chemicals consisting of or containing dangerous substances
08 01 13* sludges from paint or varnish containing organic solvents or other dangerous substances	19 02 08* liquid combustible wastes containing dangerous substances
08 01 17* wastes from paint or varnish removal containing organic solvents or other dangerous substances	20 01 13* solvents
08 03 12* waste ink containing dangerous substances	20 01 27* paint, inks, adhesives and resins containing dangerous substances
08 04 09* waste adhesives and sealants containing organic solvents or other dangerous substances	20 01 28 paint, inks, adhesives and resins other than those mentioned in 20
08 04 11* adhesive and sealant sludges containing organic solvents or other dangerous substances	

Part 2. Treatment process & techniques

Criteria		Self-monitoring requirements
2.1	All treatment processes needed to prepare the waste solvent for direct input into final use shall have been completed.	Treatment processes shall be undertaken in accordance with the waste authorisation under which the recovered solvents are produced.
2.2	Recovery shall be carried out via batch distillation under controlled conditions, as per Soltec's internal QC procedure WI-082	The producer shall regularly review and revise QC procedures to ensure they reflect current standards and operational requirements.
2.3	Each batch of the recovered solvents produced shall be assigned a unique identifier for traceability.	

Part 3. Quality of recovered solvents resulting from the recovery operation.

Criteria		Self-monitoring requirements
3.1	Each batch of recovered solvent—defined as a maximum of 55 m ³ —shall be verified via Soltec's internal QC procedure WI-037, meet the specification range outlined in Table 2 (QC RS10.6), and be accompanied by a Certificate of Analysis (CoA	<p>Qualified staff shall grade/classify each batch of recovered solvents.</p> <p>A register of non-conforming products for these criteria shall be maintained by the producer. The register shall contain information as to the reasons for the non-conformance and the manner in which the non-conformance was rectified.</p> <p>The producer shall regularly review and revise QC procedures to ensure they reflect current standards and operational requirements.</p>
3.2	<p>The recovered solvents shall, as required, comply with the relevant provisions of the:</p> <ul style="list-style-type: none"> i Classification, Labelling and Packaging (CLP) Regulation¹; ii Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation²; iii ADR (European Agreement concerning the International Carriage of Dangerous Goods by Road) iv Or any other relevant legislation requirements as applicable or as identified by the Agency. 	As regulations are subject to amendment and replacement, it is the producer's responsibility to ensure that current regulations are referred to.
3.3	VOC content shall be determined using ISO 11890-1:2024 and comply with VOC Directive 2004/42/EC	As technical standards and specifications are subject to regular review, it is the producer responsibility to ensure that the latest version is referred to.
3.4	The recovered solvents shall comply with the specifications in Table 2 and sampling and testing requirements set out in Part 4.	<p>A qualified person shall undertake sampling and testing.</p> <p>A qualified person shall review the test results and determine material as compliant or non-compliant with this criterion.</p> <p>A register of non-conforming product for these criteria shall be maintained by the producer. The register shall contain information as to the reasons for the non-</p>

		conformance and the manner in which the non-conformance was rectified. The register shall also include information on the outlet for the non-conforming product, for example whether it is re-introduced to the start of the process, disposed of, or recovered as waste.
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¹ Classification, Labelling and Packaging - Regulation (EC) No 1272/2008 (CLP)

² Registration, Evaluation, Authorisation and Restriction of Chemicals - Regulation 1907/2006/EC (REACH)

Part 4. Sampling & testing

Criteria		Self-monitoring requirements
4.1	Incoming waste solvents are subject to sampling and testing in Soltec's in-house laboratory, for parameters set out in Table 3 below.	Samples shall be collected by a qualified person and be in accordance with the sampling and monitoring conditions of the site's IEL.
4.2	<p>A verification sample shall be collected and tested as per batch—defined as a maximum of 55 m³— of recovered product.</p> <p>Samples and testing of solvents shall be conducted as follows:</p> <ul style="list-style-type: none"> i. at an accredited laboratory, using accredited test methods, where available, for all parameters specified in Table 2; and ii. with confirmation the recovered product is free of all non-volatile residues; and iii. in accordance with relevant test methods as specified in ISO 11890-1:2024 and in compliance with VOC Directive 2004/42/EC 	<p>The laboratory selected shall be able to achieve detection limits for each parameter specified in Table 2.</p> <p>Laboratory analysis shall be undertaken in accordance with I.S. EN ISO-IEC 17025: General requirements for the competence of testing and calibration laboratories.</p> <p>Samples shall be collected by a qualified person.</p> <p>A sample shall comprise a composite of a minimum of 3 no. sub-samples</p>

Table 2: Recovered Solvents (Output) – Specifications

Component / Parameter	Unit	Range / Notes
Density / Specific Gravity	kg/litre	Report @ 15°C
Colour	Hazen	< 20
Appearance	Visual	Clear & Bright
pH	1–14 scale	7–8.5
Inhibitor	%v/v	0.1 (1L of Steecat P1000 in 1000 Litre)
Water Content	%w/w	< 2
Corrosion Test	Time	24 hour @ 40°C
Odour	Typical	Normal
Hydrocarbons		Total in 30-50% w/w range
<i>Aromatic</i>		<i>Total in 10–50% w/w range</i>
Xylenes (aromatic hydrocarbon)	%w/w	<20
Toluene (aromatic hydrocarbon)	%w/w	
<i>Aliphatic</i>		<i>Total in 0-30% w/w range</i>
Special Boiling Point Solvent 3 (aliphatic hydrocarbon)	%w/w	
Heptane (aliphatic hydrocarbon)	%w/w	<25
Hexane (aliphatic hydrocarbon)	%w/w	
Cyclohexane (aliphatic hydrocarbon)	%w/w	
Actives		Total in 30-55% w/w range
Acetone (actives)	%w/w	
Methyl Acetate (actives)	%w/w	
Methyl Ethyl Ketone (actives)	%w/w	
Ethyl Acetate (actives)	%w/w	
Isopropyl Acetate (actives)	%w/w	
n-Propyl Acetate (actives)	%w/w	
Tetrahydrofuran (actives)	%w/w	< 3
<i>Actives (High Boilers (HB))</i>		<i>Total in 0-15% w/w range</i>
Methyl Isobutyl Ketone (Actives HB)	%w/w	
ISO Butyl Acetate (Actives HB)	%w/w	
N Butyl Acetate (Actives HB)	%w/w	
Cyclohexanone (Actives HB)	%w/w	
Alcohols		Total in 0-20% w/w range
Methanol (alcohol)	%w/w	< 5
Ethanol (alcohol)	%w/w	
IPA (alcohol)	%w/w	
N-Propanol Alcohol (alcohol)	%w/w	
Iso Butanol Alcohol (alcohol)	%w/w	
N Butanol (alcohol)	%w/w	
T Butanol (alcohol)	%w/w	
Other		
Dichloromethane / Methanol	%w/w	< 5
Acetonitrile	%w/w	< 5
Diisopropyl Ether, Methyl Tertiary-Butyl Ether, Diethyl Ether, Dimethylformamide	%w/w	< 5

Table 3: Waste solvents acceptable and reject ranges

Solvent Group	Acceptable Average Range (% w/w)	Reject (% w/w)
Dichloromethane, Diisopropyl Ether, Methyl Tertiary-Butyl Ether, Diethyl Ether, Dimethylformamide	< 5	> 10
Acetonitrile	< 10	> 30
Tetrahydrofuran	< 20	> 30
Methanol	< 20	> 30
Ethanol, Isopropyl Alcohol, Iso Butanol	Any Concentration	NA
Acetone, Ethyl Acetate, Isopropyl Acetate, Methyl Ethyl Ketone, Methyl Isobutyl Ketone, Methyl Acetate, Diacetone, Cyclohexanone, Butyl Acetate	Any Concentration	NA
Toluene, Xylene, Heptane, Hexane, Cyclohexane	Any Concentration	NA
Water	< 5	> 20
pH	4–8	NA
Solid Content (free & suspended)	5	>10

Part 5. Storage

5.1	Recovered solvents pending the results of testing, shall be identified and physically separated into individual batches per representative sample.	A storage and labelling plan shall be established and maintained. Qualified staff shall regularly monitor storage and labelling plans and records and undertake a review thereof bi-annually. Any recovered solvents stored greater than 12 months shall be re-classified as waste and managed accordingly until classified otherwise.
5.2	Prior to dispatch or use, recovered solvents that fulfil the criteria shall be kept in designated areas, separate from any other products or waste.	
5.3	The recovered solvents shall not be stored for a period greater than 12 months. Products that exceed the time limit for storage of a period of 12 months shall be deemed a waste unless otherwise demonstrated by re-testing as per Part 3.1.	

ANNEX II

Specific use & restrictions on use

1. Specific uses

The recovered solvents that are produced in compliance with these criteria shall only be suitable for paint thinners and cleaning agents in industrial and professional settings.

2. Restrictions on use

2.1 The recovered solvents shall not be used:

- In consumer products
- In applications involving direct human contact or ingestion
- In sensitive environments such as food production or pharmaceutical manufacturing

2.2 The recovered solvents are limited to sale and use in Ireland and in any other destination country where approval has been attained from the country's relevant competent authority that the recovered material is recognised by the competent authority in that jurisdiction as a non-waste prior to the material being placed on that market.

ANNEX III

Statement of conformity with the end-of-waste criteria

1.	<u>Producer of the recovered solvents</u> Producer Organisation Name: Registered Company Address: Waste Authorisation Ref. No.: Address & Eircode of Production: Contact Tel: Contact E-mail: Date of production:
2.	Quantity of the consignment in kg:
3.	<u>Classification/ specification & suitability for use</u> (a) The material in this consignment is only suitable for the following specified use(s): <i>Specify applicable suitable uses</i> <ul style="list-style-type: none"> •
4.	The recovered solvents in this consignment complies with the customer specification, industry specification or standard listed below: <ul style="list-style-type: none"> •
5.	<u>Restrictions on use</u> The material in this consignment is <u>not suitable</u> for use in: <ul style="list-style-type: none"> •
6.	The recovered solvents in this consignment meets the criteria specified in Single Case End-of-Waste decision Art28-0092 for recovered solvents.
7.	The producer of recovered solvents in this consignment applies a management system certified by a Management System Certification Body accredited by the Irish National Accreditation Board, or equivalent European accreditation body.
8.	The material has been tested at an accredited laboratory, using accredited test methods, where available, for all parameters listed in Table 2.
9.	Declaration of the producer of recovered solvents in this consignment: I certify that the above information is complete and correct to the best of my knowledge: Name: Date: Signature:
10.	<u>Chain of custody</u> Producer As per Item 1. Date of transfer to next holder: Any other holder (where applicable) Organisation Name: Contact Tel: Contact E-mail: Date of transfer to next holder: User Organisation Name (if applicable): Name: Contact Tel: Contact E-mail: Use Location: NOTE: it is the responsibility of the holder who transfers the recovered solvents to the next holder to ensure the chain of custody has been completed to include details of the next holder.