

# Transboundary waste shipments and the new plastic inputs

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# Transboundary waste shipments and the new plastic inputs

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# Prologue

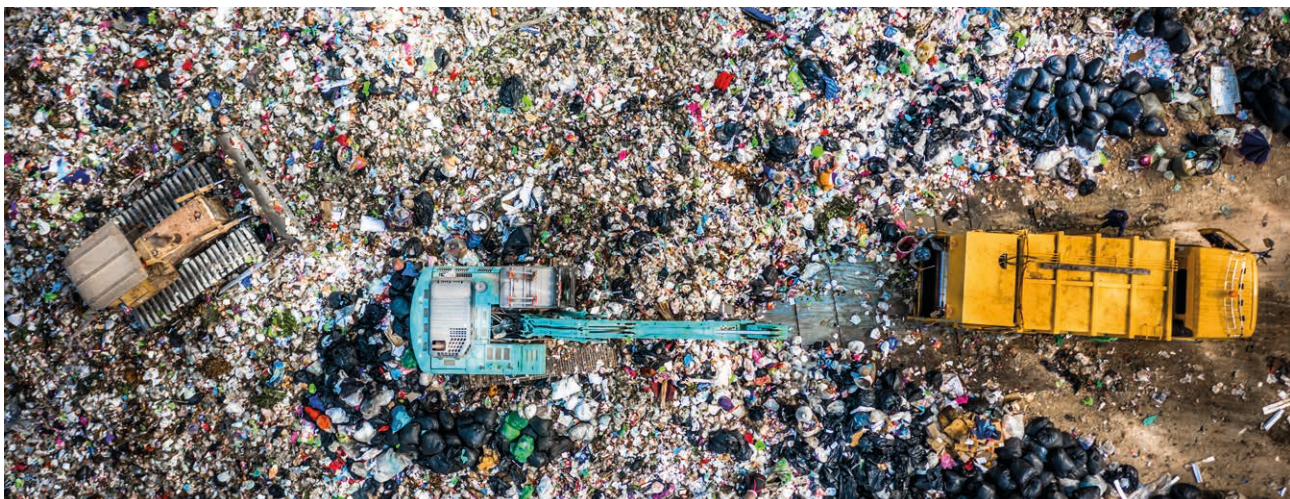
At the 14th Conference of the Parties to the Basel Convention, it was decided that the control and monitoring of transboundary movements of plastic waste should be improved in order, among other things, to counteract illegal waste shipments. For this purpose, it was necessary to specify the plastic wastes that may be freely shipped as „green-listed“ wastes and those for which a notification procedure is required.

The decision of the 14th Conference of the Parties was implemented in Regulation (EC) No. 1013 on Shipments of Waste<sup>1</sup> (VVA) on January 1, 2021. As a result, the new entries for plastic waste - EU48 and EU3011 - now apply within the EU. For transboundary shipments to or from OECD countries or non-OECD countries (so-called „third countries“), entries Y48 and B3011 apply. In addition, for hazardous plastic waste within the EU and for shipments to or from OECD countries, entry AC300 applies; for shipments to or from non-OECD countries, entry A3210 applies.

Only entries B3011 and EU3011 have been allowed to be shipped as green-listed wastes without notification. Certain mixtures of wastes covered by EU3011 may also be shipped inside the EU. All other plastic entries are subject to notification and some of them

may not be exported to countries outside the OECD. Requirements for shipments to non-OECD countries are also contained in Commission Regulation (EC) No. 1418/2007<sup>2</sup>. These requirements can also be found in the „list of states“<sup>3</sup>.

In this context, limits were defined for the interpretation of the new plastic entries, which plastic waste under the entries B3011 or EU3011 or mixtures must fulfill in order to be exempt from notification. The undefined legal terms „almost free of impurities and other types of waste“ and „almost exclusively“ were precisely defined with regard to the qualitative requirements for plastic waste. As a result, on December 3, 2021, the new Correspondents' Guidelines No. 12<sup>4</sup> entered into force, which contains a uniform interpretation of these imprecise legal terms.



1 <https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=CELEX%3A02006R1013-20210111&qid=1663150694968>

2 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02007R1418-20220402&from=DE>

3 <https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/staatenliste.pdf>

4 <https://environment.ec.europa.eu/system/files/2021-12/Correspondents%20guidelines%20No%2012%20final%20Nov%202021%20corr1.pdf>

# For whom is the guide intended

This implementation guide is aimed at all companies or institutions that deal with plastic waste on a cross-border basis. In particular, this includes waste producers, waste handlers such as sorters and recyclers, transporters and enforcement and control authorities.

It is an aid to the correct classification of the new plastic entries in accordance with the VVA and the handling in practice of the definitions explained in more detail in Correspondents' Guidelines No. 12.

## Legal background

The following legal regulations apply to the transboundary shipment of plastic waste within Europe and to third countries:

### Basel Convention

Since July 20, 1995, Germany has been one of the 189 Parties (status 2022) to the Basel Convention which was signed and entered into force on May 5, 1992. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal is the most comprehensive global environmental agreement on hazardous and other wastes.

This agreement established worldwide regulations on the permissibility and control of exports of hazardous wastes and certain other wastes. Accordingly, transboundary shipments of hazardous wastes and certain other wastes require the consent of the authorities of all countries involved, i.e. the exporting country, all transit countries and the destination country. This ensures that, in particular, countries without the necessary technical prerequisites for handling these wastes are protected from uncontrolled imports. The agreement is supplemented by the OECD Council Decision on the Control of Transboundary Movements of Wastes destined for Recovery Operations, OECD/LEGAL/0266<sup>5</sup>. (Bundesministerium für Umwelt, 2022)

Shipments of non-hazardous waste to non-OECD countries for recovery are governed by Commission Regulation (EC) No. 1418/2007<sup>6</sup>. This contains further guidance on entry B3011.

Download:

Fourteenth Meeting of the Conference of the Parties to the Basel Convention <http://www.basel.int/TheConvention/ConferenceoftheParties/Meetings/COP14/tabid/7520/Default.aspx>

Decision of the Council on the Control of Transboundary Movements of Wastes Destined for Recovery Operations <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0266>

<sup>5</sup> <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0266>

<sup>6</sup> <https://eur-lex.europa.eu/eli/reg/2007/1418/oj/eng>

## Waste Shipment Regulation (VVA)

Regulation (EC) No. 1013/2006 on shipments of waste regulates transboundary waste shipments (VVA) within the EU as well as between EU and OECD or non-OECD countries. The Waste Shipment Regulation implements the provisions of the OECD Council Decision and the Basel Convention into EU law.

According to the VVA, transboundary waste shipments are subject to a reporting requirement or the notification procedure; a ban may also apply. This depends on the classification of the waste, the planned disposal procedure, and the destination state (Umweltbundesamt, 2021).

Since January 1, 2021 specific requirements for shipments of plastic waste have applied following the adoption of the Basel Convention decision in the OECD Decision and in the VVA. These requirements were more firmly defined for practical application at the end of 2021 in Correspondents' Guidelines No. 12.

### Download:

Consolidated text: Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1013-20150601&rid=3>

## Correspondents' Guidelines No. 12

Correspondents' Guidelines No. 12 on the classification of plastic waste came into force on December 3, 2021.

Correspondents' Guidelines No. 12 contains an interpretation of the terms „almost free from impurities and other types of waste“ and „consisting almost exclusively of“ with a corresponding specification of limit values. Furthermore, recommendations for action on the classification of plastic waste containing persistent organic pollutants (POPs) and guidance on the classification of hazardous plastic waste are also included. These explanations are supplemented by further specifications on the inputs of plastic waste, on the procedures to be applied for the shipment of plastic waste and their control. (Bundesministerium für Umwelt, 2022)

### Download:

CORRESPONDENTS' GUIDELINES No 12 <https://environment.ec.europa.eu/system/files/2021-12/Correspondents'%20guidelines%20No%2012%20final%20Nov%202021%20corr1.pdf>



# At a glance

## What are the new plastic waste entries?

### What is entry EU3011 or a mixture thereof?

Certain non-hazardous plastic wastes that are free of impurities and other types of wastes, including other polymers (< 6 % by weight) are assigned to waste code EU3011. These include the groups:

1. Consisting almost exclusively of a non-halogenated polymer or a mixture of these polymers (PE, PP, PS, ABS, PET, PC, polyether and other non-halogenated polymers)
2. Consisting almost exclusively of a cured resin or condensation product (urea-formaldehyde resins, phenol-formaldehyde resins, melamine-formaldehyde resins, epoxy resins, alkyd resins, and other resins)
3. Almost exclusively consisting of a specific fluorinated polymer (FEP, PFA, MFA, PVF, PVDF, PTFE). Consumer wastes made from these fluorinated polymers are excluded.
4. PVC

This waste corresponds to the so-called „Green List“ and can be shipped within the EU without notification. According to Article 18 of the Waste Shipment Regulation<sup>7</sup>, a completed document in accordance with Annex VII of the regulation must be carried during transport.

Mixtures of green-listed plastic waste can only be green-listed if they are explicitly mentioned in Annex IIIA, No. 4 of the Waste Shipment Regulation.

Under Annex IIIA, No. 4 of Correspondents' Guidelines No. 12, the mixtures are specified as follows:

(a) Mixtures of wastes classified in entry EU3011 and listed in the indent concerning non-halogenated polymers;

(b) Mixtures of wastes classified in entry EU3011 and listed in the indent concerning cured resins or condensation products;

(c) Mixtures of wastes classified in entry EU3011 and listed under the indent concerning perfluoroalkoxyalkanes.

### What is entry AC300?

Waste code AC300 is assigned to hazardous wastes in the Waste Shipment Regulation, which must be reported if being shipped within the EU or between OECD countries.

### What is entry EU48?

Waste code EU48 is assigned to plastic waste that cannot be assigned to waste codes EU3011, a mixture of EU3011 according to Annex IIIA of the Waste Shipment Regulation, or waste code AC300 when shipped within the EU. This includes plastic waste from the green list, which does not comply with the 6 % by weight of impurities or other types of waste. Code EU48 wastes must be reported.

### What is entry B3011?

Waste code B3011 is assigned to certain plastic wastes that are free of impurities and other types of wastes, including other polymers, and that are intended for transboundary shipment to non-EU countries. This waste code does not require notification if the plastic waste is classified as green-listed waste in the following groups:

1. Consisting almost exclusively of a non-halogenated polymer (PE, PP, PS, ABS, PET, PC, polyether and other non-halogenated polymer) or a mixture of PE, PP and PET.
2. Consisting almost exclusively of a cured resin or condensation product (urea-formaldehyde resins, phenol-formaldehyde resins, melamine-formaldehyde resins, epoxy resins, alkyd resins, and other resins)

<sup>7</sup> <https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=CELEX%3A02006R1013-20210111&qid=1663150694968>

3. Almost exclusively consisting of a specific fluorinated polymer (FEP, PFA, MFA, PVF, PVDF) (and are not consumer waste)
4. Mixtures of plastic wastes consisting of PE, PP and/or PET.

In addition, it must be demonstrated that this waste is destined for recycling (R3). A transboundary shipment for energy or other recovery does not correspond to this situation and is subject to notification.

#### **What is entry A3210?**

Waste code A3210 is assigned to hazardous plastic waste shipped from non-OECD countries, i.e. imported. Waste code A3210 may not be exported to non-OECD countries.

#### **What is entry Y48?**

Plastic waste that cannot be assigned to waste codes B3011 or A3210 is assigned to waste code Y48. This also includes plastic waste from the green list that does not comply with the limit of 2 % by weight.

#### **What has to be considered for shipments outside Europe and the OECD?**

In the case of a transboundary shipment of plastic waste outside Europe, entries B3011, A3210 (or AC300 for OECD countries) and Y48 apply. In addition, stricter limits apply for impurities or other types of waste. In order to ship plastic waste to OECD countries without notification, they must comply with limits of 2%. Outside EU countries, only B3011 may be shipped without notification. Entries AC300 and Y48 are subject to notification within OECD countries. Entries A3210 and Y48 are prohibited for transboundary shipment outside OECD countries. In the case of a shipment outside the EU, proof must also be provided that the plastic waste to be shipped will be fed into a recycling process.

#### **What are POPs?**

These are chemical substances that remain in the environment, are difficult to degrade, accumulate along food chains (e.g. in fatty tissue) and can thus reach concentrations that cause lasting damage to humans

and the environment. Examples are pesticides (e.g. DDT) or industrial chemicals such as polychlorinated biphenyls (PCBs) and dioxins and furans (BMUV, 2022<sup>8</sup>).

They are subject to special disposal regulations, which are under Annex V of EU Regulation 2019/1021 (POP-Verordnung<sup>9</sup>). Further information can be obtained on the UBA Homepage<sup>10</sup>.

<sup>8</sup> <https://www.bmuv.de/themen/gesundheit-chemikalien/chemikalien/pops>

<sup>9</sup> <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:32019R1021&from=DE>

<sup>10</sup> <https://www.umweltbundesamt.de/themen/abfall-ressourcen/abfallwirtschaft/abfallarten/gefahrlche-abfaelle/pop-pcb-haltige-abfaelle#pop-haltige-abfalle>

## What applies to the new entries

The following table shows an overview of the regulations covering the new plastic waste entries according to the Waste Shipment Regulation and Correspondents' Guidelines No. 12, their limit values and the existing reporting requirement or ban on shipment within the EU, within OECD countries and in non-OECD countries.

Table 1

### Overview of plastic waste inputs according to the Waste Shipment Regulation, Correspondents' Guidelines No. 12 and the Basel Convention, respectively

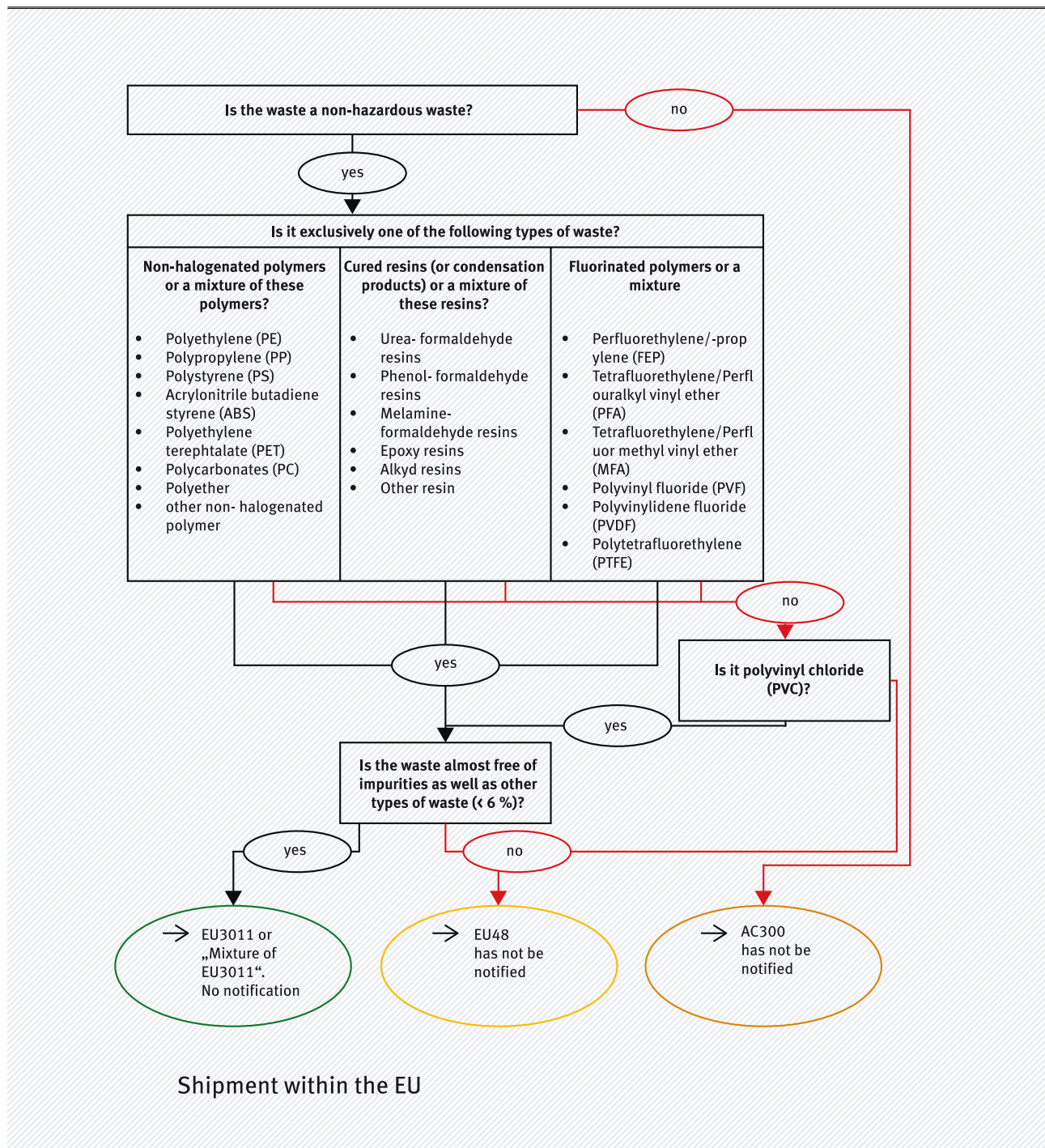
	Shipment within the EU	Export to / Import from OECD country outside EU	Export to / Import from non-OECD Country
<b>Green list entries</b>	<b>EU3011 and „Mixture of EU3011“</b>	<b>B3011 and „Mixture of PE, PP and PET</b>	<b>B3011 and „Mixture of PE, PP and PET</b>
Limit value	6%	2%	2%
Shipment allowed	Yes	Yes	Yes
Notifiable	No	No	Under circumstances*
Obligation to provide evidence of recycling in the destination country	No	No	Yes
<b>Plastic waste in Annex IV of the Waste Shipment Regulation</b>	<b>EU48</b>	<b>Y48</b>	<b>Y48</b>
Shipment allowed	Yes	Yes	No (ban)
Notifiable	Yes	Yes	-
<b>Hazardous waste</b>	<b>AC300</b>	<b>AC300</b>	<b>AC3210</b>
Shipment allowed	Yes	Yes	No (ban)
Notifiable	Yes	Yes	-

\*Procedure according to Regulation (EC) No. 1418/2007 (ban notification or green list)

Figure 1 and Figure 2 are an aid to the parties involved in the transboundary shipment of plastic waste within and outside of the EU, and show which wastes require notification and when.

Figure 1

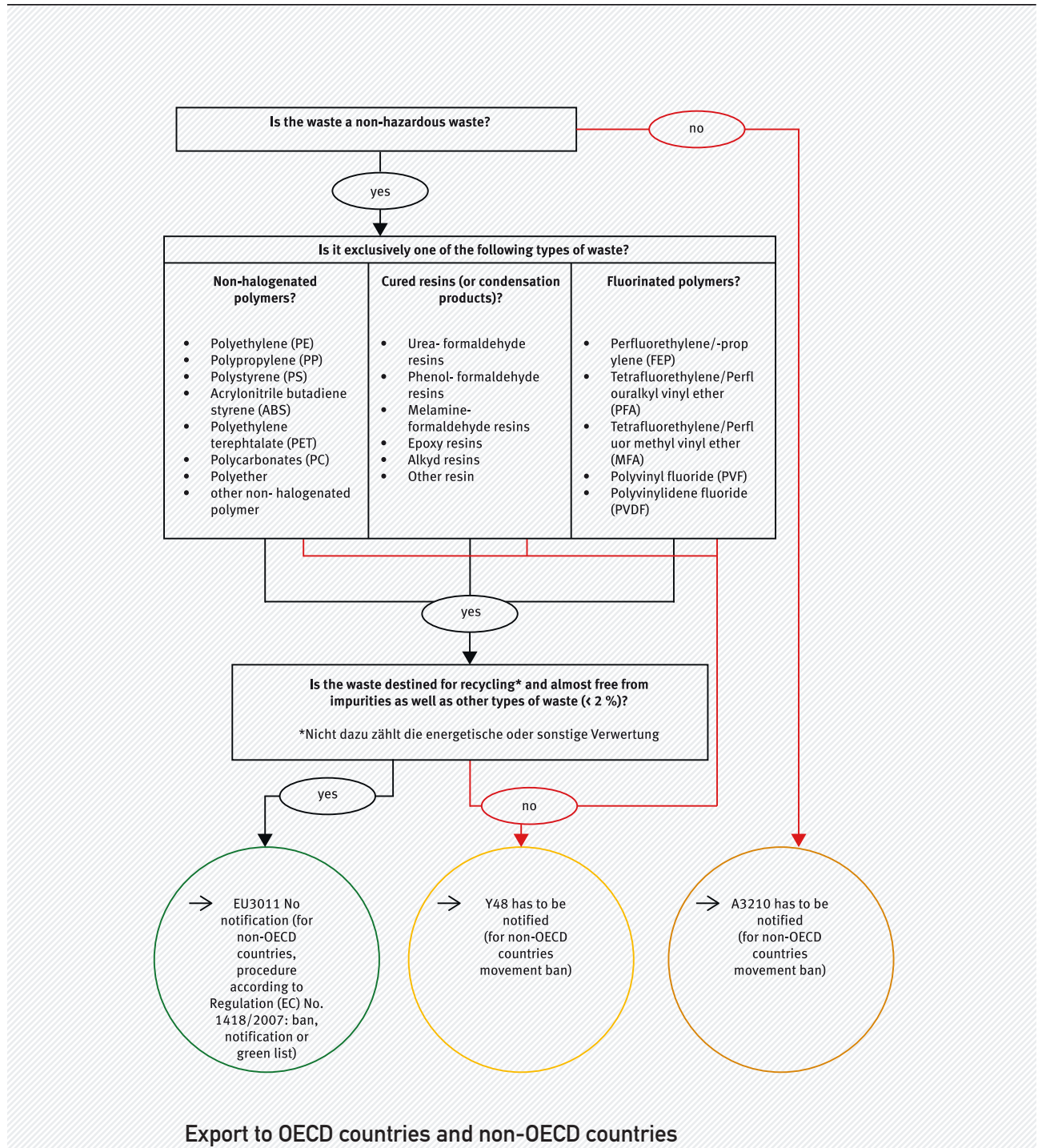
### Shipment within the EU



(based on the SAM: (bvse, 2020))

Figure 2

Shipment OECD or non-OECD countries



Export to OECD countries and non-OECD countries

(based on the SAM: (bvse, 2020))

# Differentiation between POPs and hazardous waste

Particular recommendations for action are described for the classification of plastic waste containing persistent organic pollutants (POPs) or hazardous plastic waste in Correspondents' Guidelines No. 12.

## POPs<sup>11</sup>

„Persistent organic pollutants (POPs) are organic chemicals that are characterized by their longevity (persistence), accumulate in organisms and thus in the food chain (bioaccumulation and biomagnification), and have harmful effects on human and animal organisms. They have the potential for long-range transport, which means that these substances can also be found in remote regions, e.g. Antarctica - even if they are only used in industrialized countries. Because production, use, and adverse effects can be very far apart in both time and space for these chemicals, effectively limiting their damage requires international cooperation and agreements.“ (Bundesministerium für Umwelt, 2022)

For POPs, specific firm definitions have been established in Correspondents' Guidelines No. 12.

Plastic wastes containing POPs, such as POP-BDEs, in quantities that meet or exceed the concentration limits specified in Annex IV of Regulation (EU) 2019/1021 should be classified under entry Y48 for exports from and imports into the EU or under entry EU48 for shipments within the EU. However, such wastes must be classified as hazardous if they exhibit a hazardous characteristic as defined in Annex III of the Basel Convention or Annex III of Directive 2008/98/EC. This can be found in Correspondents' Guidelines No. 12.

## Hazardous waste

These are types of waste with defined hazardous characteristics that pose a risk to health and / or the environment. Separate disposal routes and proce-

dures exist for this type of waste to ensure safe and environmentally sound treatment.

Wastes must be classified as hazardous if, according to Correspondents' Guidelines No. 12<sup>12</sup>:

„(a) first, the waste contains or is contaminated by any of the constituents listed in Annex I to the Basel Convention,

(b) second, the presence of those constituents or contaminants causes the waste to exhibit any of the properties specified in Annex III to the Basel Convention; and

(c) third, whether the waste exhibits any of the hazardous properties listed in Annex III to Directive 2008/98/EC or is hazardous under Decision 2000/532/EC on a list of wastes because it contains certain POPs.“

<sup>11</sup> <https://www.umweltbundesamt.de/themen/chemikalien/persistente-organische-schadstoffe-pop>

<sup>12</sup> <https://environment.ec.europa.eu/system/files/2021-12/Correspondents%20guidelines%20No%2012%20final%20Nov%202021%20corr1.pdf>

# Correct use of terms

## „Almost free from impurities and other types of wastes“ and „consisting almost exclusively of“

According to Correspondents' Guidelines No. 12, these descriptions of impurity levels mean an allowed limit of 6% within EU countries and 2% outside in OECD or non-OECD countries. According to Correspondents' Guidelines No. 12, a member state may apply 2% instead of the 6% at the national level but must notify the Commission in advance. The same limits are allowed for approved mixtures of plastic waste (see Figure 1 and Figure 2).

## Specialist disposal company

This term is legally defined in Section 56 (2) of the Closed Substance Cycle Waste Management Law in Germany. The associated requirements are regulated in the Ordinance on Specialized Waste Management Operations. The requirements include that the company is able to carry out activities independently on the basis of its technical, personnel and organizational equipment. This also includes the reliability as well as the technical and expert knowledge of the owner and employees. The scope of waste that the company is allowed to handle is determined by certification and monitoring. Specific types of waste or waste from specific areas of origin, specific recovery or disposal processes or specific sites or partial sites are addressed here.

### Download:

Kreislaufwirtschaftsgesetz 2011 <https://www.gesetze-im-internet.de/krwg/>

Entsorgungsfachbetriebsverordnung [https://www.gesetze-im-internet.de/efbv\\_2017/BJNR277010016.html](https://www.gesetze-im-internet.de/efbv_2017/BJNR277010016.html)

## Notification

For transboundary shipments of wastes that are not on the „Green List“, the Waste Shipment Regulation requires that transports be notified to and approved by the competent authorities in advance. For this purpose, the relevant notification form and the form that accompanies the shipment, as well as all other necessary documents, must be submitted by the exporter

to the competent authorities in the home country for approval. Licensed documents from the specialized trade may be required for this purpose.

A cross-border shipment is only permitted if the competent authorities at the place of dispatch (exporting country) and at the destination (importing country) have given their prior written consent. Competent authorities in the transit countries must have given at least tacit consent. All documentation must be provided in its entirety and is generally valid for one year. Exceptions apply for facilities with prior consent according to Art. 14 of the Waste Shipment Regulation.

### Download:

Zuständige Behörden in Deutschland [https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent\\_authorities\\_germany.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent_authorities_germany.pdf)

Zollstellen [https://www.bmu.de/fileadmin/Daten\\_BMU/Download\\_PDF/Abfallwirtschaft/zollstellen\\_liste\\_2019\\_bf.pdf](https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/zollstellen_liste_2019_bf.pdf)

Notifizierungsformular [https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/notifizierungsformular\\_muster\\_de.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/notifizierungsformular_muster_de.pdf)

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Vollzugshilfe nach VVA [https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/vollzugshilfe\\_vva.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/vollzugshilfe_vva.pdf)

## Experts

In relation to waste management, experts are used in various places to verify technical feasibility for the treatment of waste. For example, in the certification of recovery facilities (consignees), experts ensure the performance of the facility and verify the processability of the input materials.

An expert is a person with special expertise who acts as an appraiser. The term is not a special job title and is not protected. The situation is different with publicly appointed experts, who receive recognition of a special qualification through a public appointment. In this way, courts, authorities, the business community and the general public have access to individuals who are particularly reliable, credible and have above-average knowledge and experience in a specific subject area. In Germany, they are examined and monitored by the Chambers of Industry and Commerce (IHK) according to strict criteria. Public appointment and swearing in is only a matter of general public interest and is not to be confused with professional promotion.

Download:

Industrie- und Handelskammer, Sachverständigenverzeichnis  
<https://svv.ihk.de/>

## Impurity

The term „ impurity „ mentioned in the new plastic entries includes non-hazardous foreign matter. This includes food residues in plastic packaging (e.g. yogurt in an otherwise empty pot) or dirt in the form of inerts and native biological adherence (e.g. adherence of soil, silage or feed residues to film). „Other types of waste“ include non-hazardous wastes such as paper, wood, and metals or plastic wastes not listed with the mixtures in VVA Appendix III A. This includes, for example, PVC. Liquid residues after liquids have been emptied out (e.g. residues of water or other beverages from PET bottles) as well as caps, lids and labels that are classified as ancillary components of the plastic products that have become waste (e.g. PET bottle) are excluded. These do not constitute contamination.

## Certification (receiver systems)

In DIN EN ISO/IEC 17000:2020 „Conformity assessment - terms and general principles“, certification is defined as „action by an impartial third party to

demonstrate that there is reasonable confidence that a properly designated product, process or service is in conformity with a specific standard or other normative document.“

Such certification applies, for example, to recyclers who process plastic waste from the Dual System.



# Sampling / control methods

The objective of sampling is to generate a representative subset that can be used to determine characteristic features of the material to be investigated (Länderarbeitsgemeinschaft Abfall (LAGA), 2001).

Sampling is planned and documented using a sampling plan and forms the basis of the control methods.

Quality inspections of plastic waste are usually carried out by sampling loose bulk material, from falling material or from a bale of material in accordance with LAGA PN-98, the sampling scheme of DSD - Duales System Holding GmbH & Co. KG (DSD), a country's own national documents or recommendations from neighboring countries. As an aid to practice, LAGA PN-98 and the DSD sampling scheme are explained in more detail here.

## LAGA PN-98

LAGA PN-98 is a German „Guideline for the procedure for physical, chemical and biological investigations in connection with the recovery/disposal of waste“<sup>13</sup> and serves as the basis for many other national and international standards and procedures (Länderarbeitsgemeinschaft Abfall (Länderarbeitsgemeinschaft Abfall (LAGA) Ministerium für Umwelt und Forsten Rheinland-Pfalz, 2001) .

With a focus on solid and puncture-resistant waste, conclusions can be drawn about the sampling of plastic waste. In this context, applicability is defined by the maximum grain size. According to LAGA PN-98, the maximum grain size is set at 120 mm. In the case of waste with a continuous grain size > 120 mm, each item must represent a separate individual sample, which does not allow LAGA PN98 to be applied to material in bales. LAGA PN-98 describes sampling from moving and non-moving materials, and the document refers to on-site measures at the producer's or at recipient's incoming inspections.

The volume of the respective individual samples is defined in accordance with the maximum grain size.

Thus, the minimum volume of an incremental sample for a regrind with the largest grain size between 2 - 20 mm is 1 liter. The number of individual samples is determined by the type or location of sampling. In the case of sampling from dormant waste, e.g. from piles, the total number of individual, composite and aggregate samples is determined by calculating the cubature (volume) of the pile. The sample is then taken by means of:

- ▶ scraping slits
- ▶ sample piercers
- ▶ shovels
- ▶ opening of the pile with large equipment.

For this purpose, the upper 5 - 10 cm are stripped and the samples are taken over the entire depth if possible. When using the sample piercer, care must be taken to ensure that the diameter of the tube is at least 2 to 3 times the maximum particle size of the material to be analyzed.

If it is possible to generate a sample from moving material flows, e.g. during production/processing at a chute, belt overthrow, etc., this method is to be preferred and represents the state of the art. It should be noted that the entire material flow should be cut with the sample. For this purpose, sampling should be carried out only after an appropriate run-up of the conveyor and the individual samples should be taken at equal intervals.

The possibilities for sampling and checking the quality during the shipment are based on the forms of packing that are typical for transport. While the sampling of a cargo load is based on sampling from static waste, for big bags, drums, barrels and containers, the number of samples is chosen with reference to the respective number of containers. In consideration of the fact that approx. 28 big bags may be transported

13 <https://www.umweltbundesamt.de/themen/chemikalien/persistente-organische-schadstoffe-pop>

by truck at one time (with a permissible total weight of 40 t), 10 containers must be subject to sensory evaluation in accordance with LAGA PN-98 and a composite sample generated from at least 2 big bags. The containers to be tested must be chosen at random and the sampling carried out by four punctures using a drill stick or sample tester over the entire depth of the bale. (Länderarbeitsgemeinschaft Abfall (LAGA), 2001)

Download:

LAGA PN-98 [https://www.laga-online.de/documents/m32\\_laga\\_pn98\\_1503993280.pdf](https://www.laga-online.de/documents/m32_laga_pn98_1503993280.pdf)

### **Sampling according to DSD**

In contrast to the standards and guidelines already mentioned, testing and monitoring companies often use the sampling procedures for plastic waste at article level according to Duales System Deutschland GmbH. These are increasingly requested by sorting or recycling plants in order to obtain expert statements on the purity of their waste streams. In this context, Duales System Deutschland (Dual System Germany - DSD) has laid a foundation for the sampling of plastic waste at article level.

The type of sampling described is carried out on dormant materials in the form of piles or bales on the premises of the sorter / producer or the recycler / recipient. A representative bale is selected, from which a sample of 80 - 100 kg is taken randomly from the center by hand or using shovels. The number of bales to be tested depends on whether the target quality is met or not. If the quality is met in this sample, the test is passed. In case of non-compliance, further bales of the same load are sampled so that a „best of three“ result can be obtained (DSD – Duales System Holding GmbH & Co. KG, 2021).

The checks are carried out manually with the assistance of near infrared technology, which is used to detect the types and proportions of plastic contained. Different types of plastics can be detected using material-specific reflection of non-adsorbed parts of an NIR beam and displayed as a spectrum, then identified using a library stored on the device.

# Practical implementation in the company

The following table contains the most important information you need to consider for the transboundary shipment of plastic waste. It serves as an aid for despatchers, recipients and the authorities, and clearly summarizes the principal issues.

Table 2

## Supporting information for implementation

<p>To which country is the waste to be shipped?</p>	<p>The destination country is of great importance for a transboundary shipment of plastic waste. Depending on the country, there may be differences in the types of plastics to be shipped, limits to be complied with, notification requirements or bans on shipment. A distinction is made between:</p> <ul style="list-style-type: none"> <li>▶ shipments within the EU</li> <li>▶ export and/or import with OECD countries outside the EU and</li> <li>▶ export and/or import with non-OECD countries outside the EU</li> </ul> <p>Further information and links can be found under „What are the new plastic waste entries?“.</p>
<p>Which plastic entries are we talking about?</p>	<p>In the case of plastic waste, a distinction must be made as to whether it is to be shipped within or outside of the EU. If the plastic waste is shipped across borders within the EU, entries EU3011, mixtures of EU3011 according to Annex IIIA No. 4 of the Waste Shipment Regulation, EU48 and AC300 apply. Outside the EU, entries B3011, as well as mixtures of PE, PP and PET, insofar as they are intended for separate recycling, Y48 and A3210 (non-OECD countries) or AC300 (OECD countries) apply.</p> <p>Entries EU3011, mixtures of EU3011, which are explicitly mentioned in Annex IIIA No. 4 of the Waste Shipment Regulation, B3011, as well as mixtures of PE, PP and PET insofar as they are intended for separate recycling, correspond to the Green List.</p> <p>Details of which plastic waste corresponds to the respective entries can be found in Figures 1 and 2 or in Annexes III, IIIA and IV of the Waste Shipment Regulation.</p>
<p>Which limit values must be observed?</p>	<p>In order to comply with “green-listed” entries, the plastic waste must comply with limit values with regard to impurities and other types of waste. Within the EU, limits of 6% apply to EU3011 and mixtures of EU3011 mentioned in Annex IIIA No. 4 of the Waste Shipment Regulation. For transboundary shipments outside the EU, limits of 2% must be met.</p> <p>Further information and links can be found under Correspondents’ Guideline No. 12.</p>

Which plastic inputs are subject to notification or prohibited for transboundary movement?

Entries EU3011 and mixtures of EU3011, which are mentioned in Annex IIIA No. 4 of the Waste Shipment Regulation, are exempt from notification. Outside the EU and within OECD countries, entries B3011 and mixtures of PE, PP and PET are exempt from notification if they are intended for separate recycling.

In case of shipment within the EU, entries EU48 and AC300 must be reported.

In case of export to / import from OECD countries outside the EU, entries Y48 and AC300 must be reported. For imports from non-OECD countries, entries B3011, Y48 and A3210 must be reported. For export to non-OECD countries, B3011 may need to be reported.

“Exports of non-hazardous plastic waste covered by entry B3011 to countries where the OECD Decision does not apply are subject to controls under Commission Regulation (EC) No. 1418/200725 (prohibition, prior written notification and consent procedures, or general information requirements under Article 18 of the Waste Shipment Regulation).”

Entries Y48 and A3210 are subject to a movement ban for transboundary movement to non-OECD countries outside the EU.

Further information and links can be found in the chapter entitled “What are the new plastic waste entries?”.

What documents must be carried during transport?

No notification need be applied for if plastic waste is shipped across borders as „green-listed“ entries. However, the shipment is subject to the reporting requirement. For this purpose, the mandatory Annex VII document, „Shipment Information“, must be carried during transport and signed by the consignee.

A download link to the form can be found under „Shipping Information“ on the UBA website.

In addition, evidence of a disposal contract between the sender and recipient must be provided upon request by the authorities.

If the entries need to be reported, the „Notification Form“ must be completed. A transboundary shipment of entries requiring notification must be reported to the country of dispatch, transit and destination.

Further information and links can be found under „Notification“. Independent studies on the limit values of impurities and other types of waste that have to be complied with should be carried in order to be able to provide proof of the quality of entries EU3011, mixtures of EU3011 or B3011 upon inspection.

Sampling for proof of limit value compliance

For the sampling of plastic waste in order to prove compliance with limit values for contaminants and other types of waste, reference is made to the LAGA PN-98 and DSD sampling procedures. For plastic waste at regrind level, sampling according to LAGA PN-98 is carried out in static bulk piles, BigBags or from bulk piles during operation. Suitable tools for sampling include sample testers / sample lances. The number and quantity of samples depends on the size and volume of the material being tested. Further information and links can be found under LAGA PN-98.

In the case of plastic waste at article level, sampling can only be carried out in reference to LAGA PN-98 because the largest grain size is too large. In this case, using the DSD sampling procedure is more feasible. In current practice, 80-100 kg samples are taken randomly from bales or piles and sorted by hand. This procedure has not been established in law.

For more information, see Sampling according to DSD.

Handheld near-infrared (NIR) instruments have become established as aids for the detection of types of plastic, as they allow types of plastic to be detected selectively, non-destructively and within seconds.

Further information and links can be found under NIR handheld devices.

# Annex

## Further information

### Literature recommendations

Praxishandbuch zur grenzüberschreitende Abfallverbringung, Dr. Wuttke, J.; ISBN 978-3-87841-924-2; Verkehrsverlag J. Fischer GmbH & Co. KG

### Useful links

Abfallverbringungsverordnung: <https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=CELEX%3A02006R1013-20210111&qid=1663150694968>

Anlaufstellen-Leitlinien Nr. 12 (deutsch): <https://ec.europa.eu/environment/system/files/2022-05/Anlaufstellen-Leitlinien%20Nr.%2012%20deutsch%2003122021%20corr.pdf>

Auslandshandelskammer Deutschland (AHK): <https://www.ahk.de/>

Basler Übereinkommen: [https://www.bmu.de/fileadmin/Daten\\_BMU/Download\\_PDF/Abfallwirtschaft/basler\\_uebereinkommen.pdf](https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/basler_uebereinkommen.pdf)

Behördenliste: [https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent\\_authorities\\_germany.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent_authorities_germany.pdf)

Europäische Kommission: [https://ec.europa.eu/info/index\\_de](https://ec.europa.eu/info/index_de)

Europäische Union: [https://european-union.europa.eu/index\\_de](https://european-union.europa.eu/index_de)

Entsorgungsfachbetriebe Verordnung: [https://www.gesetze-im-internet.de/efbv\\_2017/BJNR277010016.html](https://www.gesetze-im-internet.de/efbv_2017/BJNR277010016.html)

Industrie und Handelskammer: <https://ihk.de/>

Industrie- und Handelskammer, Sachverständigenverzeichnis: <https://svv.ihk.de/>

Informationspflichten nach VVA: <https://www.umweltbundesamt.de/themen/abfall-ressourcen/grenzueberschreitende-abfallverbringung/informationspflichten>

Kreislaufwirtschaftsgesetz 2021: <https://www.gesetze-im-internet.de/krwg/>

LAGA PN-98: [https://www.laga-online.de/documents/m32\\_laga\\_pn98\\_1503993280.pdf](https://www.laga-online.de/documents/m32_laga_pn98_1503993280.pdf)

## Notifizierung

Zuständige Behörden in der BRD: [https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent\\_authorities\\_germany.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/competent_authorities_germany.pdf)

OECD-Beschluss über die Verbringung von Abfällen zur Verwertung: [https://www.umweltbundesamt.de/sites/default/files/medien/378/dokumente/oecd-2001\\_107\\_de.pdf](https://www.umweltbundesamt.de/sites/default/files/medien/378/dokumente/oecd-2001_107_de.pdf)

Staatenliste nach UBA: <https://www.umweltbundesamt.de/sites/default/files/medien/2503/dokumente/staatenliste.pdf>

Umweltbundesamt: <https://www.umweltbundesamt.de/>

Versandinformationen: <https://www.umweltbundesamt.de/themen/abfall-ressourcen/grenzueberschreitende-abfallverbringung/informationspflichten>

Zollstellen: [https://www.bmu.de/fileadmin/Daten\\_BMU/Download\\_PDF/Abfallwirtschaft/zollstellen\\_liste\\_2019\\_bf.pdf](https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Abfallwirtschaft/zollstellen_liste_2019_bf.pdf)

## Verbände

Bundesverband der Deutschen Industrie e.V.: <https://bdi.eu/>

Bundesverband für Sekundärrohstoffe e.V.: <https://www.bvse.de/>

Bundesverband der Deutschen Entsorgungs-, Wasser- und Rohstoffwirtschaft e.V.: <https://www.bde.de/>

Verein Deutscher Ingenieure: <https://www.vdi.de/>



# List of literature

bvse SAM Sonderabfall-Management-Gesellschaft Rheinland-Pfalz mbH. (2020). Merkblatt 18: Grenzüberschreitende Verbringung von Kunststoffabfällen ab 01.01.2021. Abgerufen am 21. Februar 2022 von bvse: [https://www.bvse.de/dateien2020/2-PDF/01-Nachrichten/03-Kunststoff/2020/1222-merkblatt18\\_Kunststoffabfaelle.pdf](https://www.bvse.de/dateien2020/2-PDF/01-Nachrichten/03-Kunststoff/2020/1222-merkblatt18_Kunststoffabfaelle.pdf)

Der Rat der europäischen Gemeinschaft. (1. Februar 1993). Beschluss des Rates zum Abschluß - im Namen der Gemeinschaft - des Übereinkommens über die Kontrolle der grenzüberschreitenden Verbringung von gefährlichen Abfällen und ihrer Entsorgung (Basler Übereinkommen). Abgerufen am 18. Juni 2022 von eur-lex.europa: <https://eur-lex.europa.eu/legal-content/DE/TXT/PDF/?uri=CELEX:31993D0098&from=DE>

DSD – Duales System Holding GmbH & Co. KG. (Juli 2016). Allgemeine Vertragsbedingungen der Der Grüne Punkt – Duales System Deutschland GmbH (DSD) für Verwerterverträge (AVBV) - Erlöskunden -. Abgerufen am 18. August 2022 von [https://www.gruener-punkt.de/fileadmin/Dateien/Downloads/PDFs/geschaeftsbedingungen/AVBV\\_Erloeskunden\\_2016\\_07\\_04.pdf](https://www.gruener-punkt.de/fileadmin/Dateien/Downloads/PDFs/geschaeftsbedingungen/AVBV_Erloeskunden_2016_07_04.pdf)

Europäische Parlament und der Rat. (14. Juni 2006). Verordnung (EG) Nummer 1013/2006 über die Verbringung von Abfällen. Abgerufen am 16. August 2022 von eur-lex.europa: <https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=CELEX%3A02006R1013-20210111&qid=1663150694968>

Europäische Kommission. (03. Dezember 2021). Anlaufstellen-Leitlinie Nr. 12 Einstufung von Kunststoffabfällen. Abgerufen am 17. August 2022 von ec.europa.eu: <https://environment.ec.europa.eu/system/files/2022-05/Anlaufstellen-Leitlinien%20Nr.%2012%20deutsch%2003122021%20corr.pdf>

IHK. (22. Februar 2022). IHK-Wiesbaden. (IHK) Abgerufen am 22. Februar 2022 von <https://www.ihk-wiesbaden.de/recht/sachverstaendiger-werden-sachverstaendige-suchen/merkblatt-die-zu-lassung-von-sachverstaendigen-1255450>

Länderarbeitsgemeinschaft Abfall (LAGA) Ministerium für Umwelt und Forsten Rheinland-Pfalz. (Dezember 2001). LAGA PN 98 Richtlinie für das Vorgehen bei physikalischen, chemischen und biologischen Untersuchungen im Zusammenhang mit der Verwertung/Beseitigung von Abfällen. Abgerufen am 16. August 2022 von [https://www.laga-online.de/documents/m32\\_laga\\_pn98\\_1503993280.pdf](https://www.laga-online.de/documents/m32_laga_pn98_1503993280.pdf)


Umweltbundesamt. (03. Februar 2021). [www.Umweltbundesamt.de](http://www.Umweltbundesamt.de). (Umweltbundesamt) Abgerufen am 22. Februar 2022 von <https://www.umweltbundesamt.de/themen/abfall-ressourcen/grenzueberschreitende-abfallverbringung/rechtliche-grundlagen-der-grenzueberschreitenden>







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 [www.youtube.com/user/umweltbundesamt](https://www.youtube.com/user/umweltbundesamt)  
 [www.instagram.com/umweltbundesamt](https://www.instagram.com/umweltbundesamt)