



Explanatory Guidelines of the Borealis “Statement on chemicals, regulations and standards”



Table of Contents

1	Introduction.....	1
2	Information on the cited regulations and standards.....	3
2.1	ANNEX XVII of the REACH Regulation 1907/2006/EC.....	3
2.2	Model Toxics in Packaging Legislation	3
2.3	Directive 94/62/EC on Packaging and Packaging Waste	4
2.4	Directive 2000/53/EC on end-of life vehicles.....	4
2.5	Directive 2011/65/EU on Restriction of the use of certain Hazardous Substances in electrical and electronic equipment - RoHS.....	4
2.6	Directive 2012/19/EU on waste electrical and electronic equipment (WEEE) ..	4
2.7	State of California Proposition 65 list	5
2.8	Regulation (EC) No 1005/2009 on substances that deplete the ozone layer... 5	
2.9	US Clean Air Act, Title VI, Classes I and II on substances that deplete the ozone layer	6
2.10	Regulation (EC) No 2019/1021 on persistent organic pollutants (POPs).....	6
2.11	Regulation (EC) No 1169/2011 – Annex II (Allergens)	6
2.12	Global Automotive Declarable Substance List (GADSL)	6
2.13	Swiss SR 814.018 (Verordnung über die Lenkungsabgabe auf flüchtigen organischen Verbindungen – VOCV)	7
2.14	Regulation (EC) No 1223/2009 on cosmetic products.....	7
2.15	Directive 2009/48/EC on Safety of Toys	8
2.16	European Standard EN 71 on Safety of Toys	8
2.17	Japanese CSCL; Class I and II Specified Chemical Substances	8
2.18	Japanese PRTR law, Class I and II Designated Chemical Substances.....	9
3	Information on the inventory list	10
3.1	Typical exclusions.....	10
3.2	Polymers	10
3.3	Significance of inventories for Borealis polymer products	10



1 Introduction

The “Statement on Chemicals, Regulations and Standards” (“Statement”) is issued by Borealis for polyolefin products on grade level. It informs about compliance of the product with a number of directives, laws, regulations and standards on restricted hazardous substances. Furthermore, a “no-use list” of substances commonly requested by customers is part of the statement. For ease of use, “directives, laws, regulations and standards” are collectively referred to as “regulations” in this document. The scope of this document is to guide the users of the statements. The Statement can be divided into three categories: list of most relevant regulations and standards on dangerous goods, list of non-used chemicals and list of chemical inventories.

List of most relevant regulations and standards on dangerous goods

This Guideline only gives general guidance and thus does not and cannot cover all aspects and substances listed in the regulations, which are mentioned therein. For comprehensive information please consult the full text version of the relevant regulation. The regulations are frequently updated and amended. In this guideline reference is made only to the basic regulation and any amendments thereto are referred to “and subsequent amendments” or “as amended” without stating the exact reference of each amendment. The regulations mentioned in this Guideline cover numerous substances. Only examples are mentioned.

List of non-used chemicals

Even though Borealis takes every reasonable measure to avoid contamination by or formation of hazardous substances during the production it is scientifically impossible to guarantee the complete absence of a substance in a product. Therefore Borealis can only confirm that during manufacturing of a grade, the substances, which are covered by the particular Statement, are not used in the manufacturing or intentionally incorporated into the relevant grade.

The non-used substance list is based on most frequent customer requests and does not cover all substances of concern. Substances of growing concern are added in the subsequent revision of the relevant Statement.

List of chemical inventories

This list confirms that all monomers, additives and – if applicable – the basic polymers used in the production of the relevant grade are listed in the cited inventories. A more detailed explanation can be found in section 3.

The following is not covered by the “Statement on Chemicals, Regulations and Standards” or this Guideline:

- Information on classification and labelling – please refer to the relevant “safety data sheet” (SDS) or “product safety information sheet” (PSIS).

Polyolefins

- Information on technical properties of the product such as flammability, chemical resistance, mechanical properties – please refer to the “product data sheet” or consult your Borealis sales contact.
- Information on regulations for special applications (food packaging, drinking water, medical use) – please refer to the specific “product compliance statements”.



Polyolefins

2 Information on the cited regulations and standards

In the “Statement on Chemicals, Regulations and Standards” Borealis confirms that it has not used or intentionally incorporated any of the substances above the permitted limits (if any) referred to by the following regulations in force and effect as of the date of issuance of and to the extent such regulations are specifically mentioned in the relevant statement.

For different application areas we have developed different versions of the “Statement on Chemicals, Regulations and Standards” as some regulations are not relevant for all application segments of our polyolefin products. The regulations in italic writing are only contained in the statements for our packaging, healthcare, and plastomer grades. Products for our energy, infrastructure, automotive, and appliances segments only contain the regulations in standard letters.

2.1 ANNEX XVII of the REACH Regulation 1907/2006/EC

Annex XVII of REACH restricts the manufacturing, marketing and use of certain hazardous substances and mixtures in the European Union. This annex includes are restrictions adopted in the framework of REACH and the previous legislation, Directive 76/769/EEC. The restriction may only limit the use of a substance or totally ban it from the EU market. Restricted substances include, but not limit to, polychlorinated terphenyls (PCTs), benzene, asbestos, polybromobiphenyls (PBBs), heavy metals and their compounds, CMR 1A and 1B substances and certain phthalates.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02006R1907-20210215>

2.2 Model Toxics in Packaging Legislation

Formerly known as “CONEG legislation”, Model Toxics in Packaging Legislation aims to reduce heavy metals, PFAS and phthalates in packaging. The legislation limits the sum of lead, mercury, cadmium and hexavalent chromium at 100 ppm. Phthalates are limited at 100 ppm and PFAS are not allowed in any concentration.

<http://www.toxicsinpackaging.org/>



Polyolefins

2.3 Directive 94/62/EC on Packaging and Packaging Waste

This Directive obliges producers of packaging along the supply chain (from the raw material producer to the retailer) to minimise packaging waste and to reach set recycling and recovery targets. To further decrease the impact of packaging waste on the environment, the directive limits the sum of concentration levels of lead, cadmium, mercury and hexavalent chromium at 100 ppm.

In the “Statement on Chemicals, Regulations and Standards” Borealis certifies that the requirements of the directive and also those of the related standard EN 13428 and CEN report CR13695-1:2000 are met by the relevant grade.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:31994L0062>

2.4 Directive 2000/53/EC on end-of life vehicles

This Directive aims at reducing and preventing the amount of waste produced from end-of life vehicles (ELVs) and at increasing the recovery and recycling of ELVs. In particular, the directive sets recycling targets, requires component marking to help recovery and requires producers to cover costs of take back for complete ELVs.

Applicable to the “Statement on Chemicals, Regulations and Standards” is the restriction of use of certain heavy metals (lead, mercury, cadmium, hexavalent chromium) for vehicle materials and components. The tolerated limits are < 0.1 wt% for Hg, Pb and Cr(VI) and < 0.01 wt% for Cd.

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32000L0053>

2.5 Directive 2011/65/EU on Restriction of the use of certain Hazardous Substances in electrical and electronic equipment - RoHS

The RoHS directive prohibits the use of cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers and phthalates DEHP, BBP, DBP and DIBP. The tolerated limits are 0.01 wt% for Cd and 0.1 wt% for the other substances.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32011L0065>

2.6 Directive 2012/19/EU on waste electrical and electronic equipment (WEEE)

This directive aims to protect the environment and human health by preventing or reducing impacts of waste from electrical and electronic equipment (WEEE) as well as improving resource efficiency. The directive obliges the producers of electrical and



Polyolefins

electronic equipment to organize and finance the treatment and recycling of collected WEEE, to mark their products and to inform the consumers.

In the “Statement on Chemicals, Regulations and Standards”, Borealis certifies not to use substances in the relevant grade that would require selected waste treatment as listed in Annex VII (e.g. asbestos, mercury, polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), hydrofluorocarbons (HFCs), brominated flame retardants).

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32012L0019>

2.7 State of California Proposition 65 list

The Safe Drinking Water and Toxic Enforcement Act of 1986 contains a list (Proposition 65) with all chemicals known to the State of California, USA to cause cancer or reproductive toxicity and is up-dated at least once a year. If a product contains a listed chemical above the permitted limit, a Proposition 65 warning needs to be provided with the product when put on the market in California.

Borealis certifies in the “Statement on Chemicals, Regulations and Standards” that for the relevant grade none of the listed substances are used in such a way that people would be exposed to them exceeding the tolerated limits.

<https://oehha.ca.gov/proposition-65/proposition-65-list>

2.8 Regulation (EC) No 1005/2009 on substances that deplete the ozone layer

This Regulation prohibits production, import, export, placing on the market, use, recovery, recycling, reclamation and destruction of substances that deplete the ozone layer. The substances included in this Regulation include a great variety of halogenated organic compounds, such as chloro- and bromofluorocarbons. Moreover, it sets a schedule for phasing out the production of methyl bromide and hydrochlorofluorocarbons. In old (cooling) equipment these substances may still be used.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32009R1005>



Polyolefins

2.9 US Clean Air Act, Title VI, Classes I and II on substances that deplete the ozone layer

This US regulation is very similar to the above described 1005/2009/EC (see 2.8).

<https://www.epa.gov/ods-phaseout>

2.10 Regulation (EC) No 2019/1021 on persistent organic pollutants (POPs)

Repealing 850/2004/EC, this Regulation prohibits production, placing on the market and use of substances subject to the Stockholm Convention on Persistent Organic Pollutants and the Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Persistent Organic Pollutants. The substances listed in the Annex I include polychlorinated and –brominated organic compounds, some PFAS, Aldrin, chlordane, dieldrin and endrin, among others.

In the “Statement of Chemicals, Regulations and Standards” Borealis confirms not to use any of the prohibited substances listed in Annex I of the regulation for the respective product.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02019R1021-20210315>

2.11 Regulation (EC) No 1169/2011 – Annex II (Allergens)

According to this Regulation food products, which contain ingredients listed in Annex II (allergens like nuts, cereals containing gluten, milk) have to be labelled accordingly. In the “Statement of Chemicals, Regulations and Standards” Borealis confirms not to use any of the listed allergenic ingredients for the relevant grade.

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32011R1169>

2.12 Global Automotive Declarable Substance List (GADSL)

The Global Automotive Stakeholder Group (GASG) issues the Global Automotive Declarable Substance List (GADSL) to facilitate communication and exchange of information regarding the use of certain substances in products used for automotive applications throughout the supply chain. The substances listed in the GADSL are classified as “P” or “D”. A substance designated “P” is either prohibited by regulation for use in certain applications or may not exceed regulated threshold limits. A substance designated “D” must be declared if it exceeds the defined limits.

The communication tool within the automotive supply chain is the computer-based International Material Declaration System (IMDS) in which all materials used for car



Polyolefins

manufacture are archived and maintained. The information is applicable to the use of these parts or materials in the production of a vehicle up to its usage and relevant to the vehicle's re-use or waste disposal. Through this system, the automotive industry is able to reconstruct the complete material flow. Basic compositions of materials and if present the identity and concentration of GADSL substances can be found in the database, thus facilitating the vehicle's re-use or waste disposal at the end of life.

In the "Statement of Chemicals, Regulations and Standards" Borealis confirms not to use any of the prohibited or declarable substances in the GADSL above the permitted limits.

<http://www.gadsl.org/>

2.13 Swiss SR 814.018 (Verordnung über die Lenkungsabgabe auf flüchtigen organischen Verbindungen – VOCV)

Switzerland imposes a tax on volatile organic compounds (VOCs) to minimise their use in Switzerland. VOCs listed in Annex I and preparations and articles listed in Annex II of the Regulation containing > 3 wt% of the listed substances are affected.

Polymers of ethylene and propylene are included in Annex II but since there are less than 3 wt% of Annex I VOCs in Borealis polyolefins the tax does not apply.

http://www.admin.ch/ch/d/sr/c814_018.html

2.14 Regulation (EC) No 1223/2009 on cosmetic products

This Regulation defines and lists inter alia which substances may be used or not be used for the production of cosmetic products in positive and negative lists.

Annex II lists substances banned for use in cosmetics, and Annex III lists substances that are only allowed for certain uses. Annexes IV, V, and VI lists allowed colouring agents, preservatives and UV-Filters, respectively. The use of substances classified as carcinogenic, mutagenic or reprotoxic (CMR) categories 1a, 1b and 2 under Part 3 of Annex VI to Regulation (EC) No 1272/2008 is prohibited unless some criteria defined in Article 15 are fulfilled. Furthermore, the use of nanomaterials needs to be notified.

Article 17 of the Regulation says that the non-intended presence of a small quantity of a prohibited substance, stemming from - amongst others - migration from packaging, which is technically unavoidable in good manufacturing practice, shall be permitted provided that such presence is not affecting the safety of the cosmetic product for human health.

With the "Statement of Chemicals, Regulations and Standards" Borealis confirms that no prohibited, restricted, or substances to be notified are intentionally used in the production of the product.

<https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009R1223>

Borealis AG | Wagramer Strasse 17-19 | 1220 Vienna | Austria

Telephone +43 1 224 00 0 | Fax +43 1 22 400 333

FN 269858a | CCC Commercial Court of Vienna | Website www.borealisgroup.com





Polyolefins

2.15 Directive 2009/48/EC on Safety of Toys

Chapter III of Annex II of the Directive regulates the chemical properties of toys. The restricted substances are CMR substances categories 1A, 1B and 2 under the CLP Regulation (EC) No 1272/2008 and allergenic fragrances. Furthermore it sets migration limits for a number of metals and organic tins.

With the “Statement of Chemicals, Regulations and Standards” Borealis confirms that the product fulfils the criteria of the Directive.

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32009L0048>

2.16 European Standard EN 71 on Safety of Toys

Part 3 of the Standard sets out requirements and test methods to determine the migration of several chemical elements and organic tin compounds. The migration limits for category III toy materials (scraped-off materials) are aluminium <70.000, antimony <560, arsenic <47, barium <18.750, boron <15.000, cadmium <17, chromium (III) <460, chromium (VI) <0,2, cobalt <130, copper <7.700, lead <160, manganese <15.000, mercury <94, nickel <930, selenium <460, strontium <56.000, tin <180.000, organic tin <12, zinc <46.000 mg/kg toy material

Part 9 of the Standard sets out requirements for the migration or content of certain hazardous organic chemical compounds from/in certain toys and toy materials. These substances and their applicable limits for use in toys are listed in Tables 2 A - 2 I.

The “Statement of Chemicals, Regulations and Standards” confirms that there is no migration of elements exceeding the values given in Part 3 of EN71 and that none of the restricted substances in Part 9 of EN71 are intentionally added to the relevant Borealis’ grade.

2.17 Japanese CSCL; Class I and II Specified Chemical Substances

The Japanese chemical substance control law (CSCL) regulates industrial chemicals from the view of prevention of environmental pollution. The release of the currently 28 class I specified chemical substances shall be prevented and the release of the 23 class II specified chemical substances shall be minimised. The lists contain a lot of halogenated hydrocarbons and organotin compounds.

https://www.nite.go.jp/en/chem/chrip/chrip_search/sltLst

 **Polyolefins****2.18 Japanese PRTR law, Class I and II Designated Chemical Substances**

The Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof (PRTR) regulates the obligation of business operators handling Class I and II designated chemical substances. The business operator needs to provide information on the properties and handling of the listed substances to the customers. For class I designated chemical substances the release amounts to the environment have to be notified to the authorities.

https://www.nite.go.jp/en/chem/chrip/chrip_search/sltLst



Polyolefins

3 Information on the inventory list

A chemical inventory is a listing of industrial chemicals manufactured in, or imported into a country and is used primarily to distinguish between new and existing chemicals in that country. It serves as a tool to get basic knowledge about chemicals imported, used, and manufactured in a country, thus providing a basis for informed chemical management.

An inventory nearly always has a legal instrument as its basis, such as a directive, regulation, law, decree and/or standard. The legal instrument defines the content of the information that must be reported to the inventory, to whom, in what form, and when.

Chemicals not on the inventory are identified as new and have to be notified before they can be manufactured in or imported into the particular country. The amount of data required for and the time for processing the notification vary considerably depending on the country. Most inventories are continuously updated, as new chemicals are introduced.

Inventories have been compiled by a number of countries. The “Statement on Chemicals, Regulations and Standards” includes information on **Australia, Canada, China, the European Union, Japan, New Zealand, the Philippines, South Korea, the US, and Taiwan**. In the European Union REACH will gradually succeed the current EINECS, ELINCS, NLP system.

3.1 Typical exclusions

Most countries with chemical inventories have excluded small product tests and laboratory quantities, by-products, impurities and naturally occurring substances from their reporting schemes. In addition, many chemical inventories exclude: pesticides, cosmetics, pharmaceuticals, food, food additives, and radioactive substances.

3.2 Polymers

Most inventories include polymers (the EU is an exception to this generality) and treat all different polymeric substances and monomers as individual chemicals. Some countries (e.g., the U.S.) have chosen not to require updated reporting on the production of such polymers.

3.3 Significance of inventories for Borealis polymer products

If a monomer, additive or – if applicable – a basic polymer of a polyolefin grade is not listed in a particular inventory it is not permitted to import such substance into the respective country in quantities exceeding defined limits without notifying the substance



Polyolefins

to the competent authorities of the particular country. Please note, that this applies only to the grades not to the articles produced from the grades.

In Canada there are two inventory lists: the DSL (domestic substance list) and the NDSL (non-domestic substance list). Substances included in the DSL do not need to be notified, substances listed on the NDSL are subject to notification but require less detailed information for assessment of a notification than chemicals that are neither on DSL nor on NDSL.



Issuer

This document is issued by Borealis Group Product Stewardship / Esa Arola.

Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.