

ISOFOL 12

Version: 11.07

Revision Date 2019/02/06

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1 Product identifier**

Trade name	ISOFOL 12
INCI	Butyloctanol
REACH No.	01-2119978234-31-0000
Substance name (REACH / CLP)	2-Butyloctan-1-ol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use	raw material for cosmetic agents raw material for textile auxiliary agents raw material for synthesis processes in the chemical industry raw material for lubricants and lubricant additives anti-foaming agent Solvent
Uses advised against	raw material for welding and soldering aids

1.3 Details of the supplier of the safety data sheet

Company	SASOL Germany GmbH Anckelmannsplatz 1 20537 Hamburg
	Telephone: +49 40 63684-1000 Telefax: +49 40 63684-3700
Information (Product safety):	Telephone: + 49 (0) 23 65 - 49 47 05 Telefax: + 49 (0) 23 65 - 49 92 40
E-mail address	msds-info.germany@de.sasol.com

1.4 Emergency telephone number

Emergency telephone number	+ 49 (0) 5 51 - 1 92 40 (GIZ-Nord Poisons Centre)
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SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Short-term (acute) aquatic hazard	Category 1	Very toxic to aquatic life.
Long-term (chronic) aquatic hazard	Category 2	Toxic to aquatic life with long lasting effects.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)**

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Hazard pictograms



Signal word

Warning

Hazard statements

H400

Very toxic to aquatic life.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statements

P273

Avoid release to the environment.

P391

Collect spillage.

P501

Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

No hazards to be specially mentioned.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a substance in the meaning of regulation (EC) 1907/2006.

COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORK PLACE LIMIT VALUES

2-Butyloctan-1-ol

component type: Active ingredient

EC-No.: 223-470-0

Index-No.:

CAS-No.: 3913-02-8

REACH No.: 01-2119978234-31-0000

Substance name (REACH / CLP): 2-Butyloctan-1-ol

Classification (Regulation	Aquatic Acute	1	H400
(EC) No 1272/2008):	Aquatic Chronic	2	H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

No hazards which require special first aid measures.

If inhaled

Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, give oxygen if necessary. Consult a physician.

In case of skin contact

Take off all contaminated clothing immediately.

In case of eye contact

Rinse with water.

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If swallowed Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed Symptoms: No information available.
Risks: No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Indication of any immediate medical attention and special treatment needed Treatment: No information available.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media Water spray, Dry powder, Foam, Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting Dangerous gases or fumes may occur in case of fire.

5.3 Advice for firefighters

Special protective equipment for firefighters Use personal protective equipment. Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions Handle in accordance with good industrial hygiene and safety practice. Danger of slipping after spill or leakage.

6.2 Environmental precautions

Environmental precautions Avoid subsoil penetration.
Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

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Advice on protection against fire and explosion	Provide sufficient air exchange and/or exhaust in work rooms. The product is flammable but not readily ignited. Normal measures for preventive fire protection.
Fire-fighting class	B: Fires involving liquids or liquid containing substances. Also includes substances which become liquid at elevated temperatures.

7.2 Conditions for safe storage, including any incompatibilities

Storage class (TRGS 510)	10-13: German Storage Class 10 to 13
Other data	Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s)	This information is not available.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

National occupational exposure limits

No data available

EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

No data available

DERIVED NO EFFECT LEVEL (DNEL)

Substance name: 2-Butyloctan-1-ol

Not relevant / not applicable

PREDICTED NO EFFECT CONCENTRATION (PNEC)

Substance name: 2-Butyloctan-1-ol		
Environmental Compartment	Value	Note
Fresh water	0.00014 mg/l	
Marine water	0.000014 mg/l	
intermittent release	0.014 mg/l	
treatment plant	10 mg/l	
Fresh water sediment		Not relevant / not applicable
Marine sediment		Not relevant / not applicable
Soil		Not relevant / not applicable
food		Not relevant / not applicable

8.2 Exposure controls

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PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection	No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEK-P2), in compliance with EN 141.
Hand protection	<p>The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).</p> <p>gloves suitable for permanent contact: Material: Nitrile rubber/nitrile latex Break through time: >= 480 min Layer thickness: 0.35 mm</p> <p>Material: butyl-rubber Break through time: >= 480 min Layer thickness: 0.5 mm</p> <p>unsuitable gloves Material: Natural rubber/natural latex</p>
Eye protection	Safety glasses
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.
Protective measures	Avoid contact with the skin and the eyes.

ENVIRONMENTAL EXPOSURE CONTROLS

General advice	Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	liquid; 20 °C; 1,013 hPa
Form	liquid
Colour	colourless
Odour	characteristic
Odour Threshold	No data available
pH	Not applicable
Melting point/range	-75 °C

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Boiling point/boiling range	ca. 243 °C
Flash point	ca. 120 °C; DIN 51758
Evaporation rate	No data available
Flammability (solid, gas)	not applicable (liquid)
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	0.081 hPa; 38 °C
Relative vapour density	No data available
Density	ca.0.8 g/cm ³ ; 20 °C; DIN 51757
Relative density	No data available
Water solubility	0.001 g/l; 23 °C; ASTM E 1148
Partition coefficient: n-octanol/water	log Pow: 5.5; 23 °C; pH: 5.7; OECD Test Guideline 117
Ignition temperature	ca. 255 °C
Auto-ignition temperature	not auto-flammable
Viscosity, dynamic	ca. 23 mPas; 20 °C
Explosive properties	Constituents do not contain chemical groups associated with explosivity.
Oxidizing properties	not expected based on structure and functional groups

9.2 Other data

None known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity**Note** Stable under recommended storage conditions.**10.2 Chemical stability****Note** No decomposition if stored and applied as directed.**10.3 Possibility of hazardous reactions****Hazardous reactions** Stable under normal conditions.**10.4 Conditions to avoid****Conditions to avoid** Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.**10.5 Incompatible materials to avoid****Materials to avoid** None known.;**10.6 Hazardous decomposition products****Thermal decomposition** > 350 °C

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	2-Butyloctan-1-ol: LD50 Rat: > 5,000 mg/kg; OECD Test Guideline 401 Based on available data, the classification criteria are not met.
Acute inhalation toxicity	2-Butyloctan-1-ol: study scientifically unjustified Negligible or unlikely exposure pathways Data are available from alternate exposure routes.
Acute dermal toxicity	2-Butyloctan-1-ol: LD50 Rabbit: > 2 ml/kg Target Organs: Skin Symptoms: Local irritation Category approach Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Skin irritation	2-Butyloctan-1-ol: Human: not irritating; Patch Test 48 Hrs. 2-Butyloctan-1-ol: Rabbit: slightly irritating; OECD Test Guideline 404 Based on available data, the classification criteria are not met.
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Serious eye damage/eye irritation

Eye irritation	2-Butyloctan-1-ol: Rabbit: slightly irritating; OECD Test Guideline 405 Based on available data, the classification criteria are not met.
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Respiratory or skin sensitisation

Sensitisation	2-Butyloctan-1-ol: Maximisation Test Guinea pig: not sensitizing; OECD Test Guideline 406 Based on available data, the classification criteria are not met.
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Germ cell mutagenicity

Genotoxicity in vitro	2-Butyloctan-1-ol: In vitro tests did not show mutagenic effects Category approach
Genotoxicity in vivo	2-Butyloctan-1-ol: The study is not necessary. Justification: In vitro tests did not show mutagenic effects

Remarks	2-Butyloctan-1-ol: Based on available data, the classification criteria are not met.
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Carcinogenicity

Carcinogenicity	2-Butyloctan-1-ol: This information is not available.
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Reproductive toxicity

Reproductive toxicity	2-Butyloctan-1-ol: Rat; Oral NOAEL ((parents)): > 1,000 mg/kg (based on body weight and day) NOAEL (F1): > 1,000 mg/kg (based on body weight and day) (literature value)
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Remarks	The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Test substance: Docosan-1-ol
Reproductive toxicity	2-Butyloctan-1-ol: Based on available data, the classification criteria are not met.
Teratogenicity	2-Butyloctan-1-ol: Rat; Oral NOAEL: 1,000 mg/kg (based on body weight and day) NOAEL (pregnant female): 1,000 mg/kg (based on body weight and day); OECD Test Guideline 414 (literature value) Category approach
Remarks-Teratogenicity	2-Butyloctan-1-ol: Rabbit; Oral NOAEL: > 2,000 mg/kg (based on body weight and day) NOAEL (pregnant female): > 2,000 mg/kg (based on body weight and day) (literature value) The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Test substance: Docosan-1-ol
STOT - single exposure	
Remarks	2-Butyloctan-1-ol: The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	
Remarks	2-Butyloctan-1-ol: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Repeated dose toxicity	2-Butyloctan-1-ol: Rat; Oral; 90-day NOAEL: 839.6 mg/kg (based on body weight and day); OECD Test Guideline 408 Category approach
Aspiration hazard	
Aspiration toxicity	2-Butyloctan-1-ol: Not applicable

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	2-Butyloctan-1-ol: LC50 (96 h) Oncorhynchus mykiss (rainbow trout): > 0.1 - 1 mg/l ; semi-static test; OECD Test Guideline 203
Toxicity to fish - Chronic toxicity	2-Butyloctan-1-ol: The study is not necessary. Justification: exposure considerations
Toxicity to daphnia and other	2-Butyloctan-1-ol:

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aquatic invertebrates	EC50 (48 h) Daphnia magna (Water flea): > 0.1 - 1 mg/l ; static test; OECD Test Guideline 202
Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity	2-Butyloctan-1-ol: NOEC (21 d) Daphnia magna (Water flea): 0.014 mg/l; reproduction rate; semi-static test; OECD Test Guideline 211; (literature value) The data are derived from the evaluations or test results achieved with similar products (conclusion by analogy). Test substance: dodecan-1-ol
Toxicity to aquatic plants	2-Butyloctan-1-ol: ErC50 (72 h) Pseudokirchneriella subcapitata (green algae): > 1 - 10 mg/l ; Growth rate; OECD Test Guideline 201 2-Butyloctan-1-ol: NOEC (72 h) Pseudokirchneriella subcapitata (green algae): 0.38 mg/l ; Growth rate; static test; OECD Test Guideline 201
Toxicity to bacteria	2-Butyloctan-1-ol: (3 h) activated sludge of a predominantly domestic sewage: 1,000 mg/l; Respiration inhibition; OECD Test Guideline 209 Category approach
Toxicity to soil dwelling organisms	2-Butyloctan-1-ol: The study is not necessary. Justification: unlikely direct and indirect exposure of the soil compartment Readily biodegradable.
Toxicity to terrestrial flora	2-Butyloctan-1-ol: The study is not necessary. Justification: unlikely direct and indirect exposure of the soil compartment Readily biodegradable.
Toxicity for other terrestrial non-mammalian fauna	2-Butyloctan-1-ol: The study is not necessary. Justification: unlikely direct and indirect exposure of the soil compartment
12.2 Persistence and degradability	
Biodegradability	2-Butyloctan-1-ol: rapidly biodegradable; > 60 %; 28 d; aerobic; OECD Test Guideline 310 Category approach
12.3 Bioaccumulative potential	
Bioaccumulation	2-Butyloctan-1-ol: Bioconcentration factor (BCF): 84; QSAR Bioaccumulation is unlikely.
12.4 Mobility in soil	
Mobility	2-Butyloctan-1-ol: immobile The substance and its relevant degradation products decompose rapidly.
12.5 Results of PBT and vPvB assessment	
Results of PBT assessment	2-Butyloctan-1-ol: Based on available data, the classification criteria are not met.
12.6 Other adverse effects	
General advice	2-Butyloctan-1-ol: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	Can be incinerated, when in compliance with local regulations.
waste code of the European Union: EWC	A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. The waste code must be determined in agreement with the regional waste disposal authority or company.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR	3082
RID	3082
ADN	3082
IMDG	3082
ICAO/IATA	3082

14.2 Proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Butyloctan-1-ol)
RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Butyloctan-1-ol)
ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Butyloctan-1-ol)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Butyloctan-1-ol)
ICAO/IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Butyloctan-1-ol)

14.3 Transport hazard class

ADR	9
RID	9
ADN	9
IMDG	9
ICAO/IATA	9

14.4 Packing group

ADR	III
RID	III
ADN	III
IMDG	III
ICAO/IATA	III

14.5 Environmental hazards

ADR	Environmentally hazardous	yes
RID	Environmentally hazardous	yes

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ADN	Environmentally hazardous	yes
IMDG	Marine pollutant	yes
ICAO/IATA	Environmentally hazardous	yes

14.6 Special precautions for user

ADR	Hazard Identification Number	90
	Labels	9
	Tunnel restriction code	(-)
IMDG	Labels	9
	EmS Number 1	F-A
	EmS Number 2	S-F
ICAO/IATA	Labels	9MI

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks No information available.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

NATIONAL/OTHER REGULATIONS

Legislation on the control of major-accident hazards involving dangerous substances	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. list entry in the directive:: ENVIRONMENTAL HAZARDS; E1 Qualifying quantity 1: 100 t; Qualifying quantity 2: 200 t;
Directive 1999/13/EC (VOC)	The question whether this product or components thereof has/have to be considered as volatile organic compound/compounds (VOC) as defined by Directive 1999/13/EU can only be answered when detailed knowledge on the use as solvent in connection with certain activities in certain facilities is available.

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NOTIFICATION STATUS

Switzerland. Consolidated Inventory	CH INV	listed (product or constituents are listed)
US. Toxic Substances Control Act	TSCA	listed (product or constituents are listed)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	listed (product or constituents are listed)
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	listed (product or constituents are listed)
Japan. Kashin-Hou Law List	ENCS (JP)	listed (product or constituents are listed)
Japan. Industrial Safety & Health Law (ISHL) List	ISHL (JP)	listed (product or constituents are listed)
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	listed (product or constituents are listed)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	not listed (product or constituents are not listed)
China. Inventory of Existing Chemical Substances (IECSC)	INV (CN)	listed (product or constituents are listed)

Please note: the names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in chapter 3.

15.2 Chemical safety assessment

2-Butyloctan-1-ol

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Safety datasheet sections which have been updated:

14. Transport information

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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Key or legend to abbreviations and acronyms used in the safety data sheet

ADN	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
AICS	Australian Inventory of Chemical Substances
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
BCF	Bioconcentration factor
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC...	Effect concentration ... %
ENCS	Existing Notified Chemical Substances (Japan)
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organization for Standardization
IUAPC	International Union of Pure and Applied Chemistry
KECI	Korea Existing Chemicals Inventory
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NDSL	Non-Domestic Substances List
NOAEL	no observable adverse effect level
NOEL/NOEC	No Observed-effect level/concentration
NZIoC	New Zealand Inventory of Chemicals
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport international ferroviaire de marchandises dangereuses
TG	Test Guideline
TRGS	Technische Regeln für Gefahrstoffe
TSCA	Toxic Substances Control Act
vPvB	very persistent, very bioaccumulative
WGK	Wassergefährdungsklasse

Annex

Attachments to the safety data sheet and/or lists of the identified uses for the listed substances can be downloaded using the internet links below.

2-Butyloctan-1-ol

http://www.sasolgermany.de/fileadmin/doc/productsafety/Annex/000000000067_EN_01.pdf