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Safety data sheet

BASF Safety data sheet according to Regulation UK SI 2019/758 and UK SI 2020/1577 as amended from time to time.
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Product: **PLASTOMOLL® DOA**

(ID no. 30034813/SDS_GEN_GB/EN)
Date of print 14.10.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

PLASTOMOLL® DOA

Chemical name: Di-2-ethylhexyladipate
CAS Number: 103-23-1

REACH registration number: 01-2119439699-19-0000

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

Relevant identified uses: plasticizers

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY

Contact address:
BASF plc
4th and 5th Floors, 2 Stockport Exchange
Railway Road, Stockport, SK1 3GG
UNITED KINGDOM

Telephone: +44 161 475 3000
E-mail address: product-safety-uk-and-ireland@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

No need for classification according to GHS criteria for this product.

2.2. Label elements

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

The product does not require a hazard warning label in accordance with GHS criteria.

2.3. Other hazards

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

See section 12 - Results of PBT and vPvB assessment.

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

Bis(2-ethylhexyl) adipate (Content (W/W): >= 99.5 %)
CAS Number: 103-23-1
EC-Number: 203-090-1

Hazardous ingredients (GHS)

No particular hazards known.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:
Rinse mouth and then drink 200-300 ml of water.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Hazards: (Further) symptoms and / or effects are not known so far

4.3. Indication of any immediate medical attention and special treatment needed
Treatment: Symptomatic treatment (decontamination, vital functions).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media
Suitable extinguishing media:
dry powder, water spray, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

5.2. Special hazards arising from the substance or mixture
Advice: The product is combustible. Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

5.3. Advice for fire-fighters
Special protective equipment:
Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:
Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

High risk of slipping due to leakage/spillage of product.

Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

6.1. Personal precautions, protective equipment and emergency procedures
Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions
Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up
Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections
Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
No special precautions necessary. Substance/product is non-flammable.

7.2. Conditions for safe storage, including any incompatibilities
Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

7.3. Specific end use(s)
For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

PNEC

freshwater:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

marine water:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

intermittent release:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

STP:
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

sediment (freshwater):
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

sediment (marine water):
A PNEC could not be derived as the substance showed no toxic effects in studies performed in the range of its solubility. At the present state of knowledge, no negative ecological effects are expected.

soil: 0.865 mg/kg

DNEL
worker:
Long-term exposure- systemic effects, dermal: 25.5 mg/kg

worker:
Long-term exposure- systemic effects, Inhalation: 17.8 mg/m3

consumer:
Long-term exposure- systemic effects, dermal: 13 mg/kg

consumer:
Long-term exposure- systemic effects, Inhalation: 4.4 mg/m3

consumer:
Long-term exposure- systemic effects, oral: 1.7 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:
Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Manufacturer's directions for use should be observed because of great diversity of types.
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

No body protection required if used for intended purpose and satisfying generally accepted industrial hygiene rules.

General safety and hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

Environmental exposure controls
All appropriate measures must be taken to prevent the release of this product to the environment and to limit the dispersion of any release when it occurs. Suitable risk management measures should be in place.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	almost odourless	
Odour threshold:	not determined	
pH value:	not applicable, of very low solubility	
Melting point:	-67.8 °C Literature data.	
Boiling point:	377.88 °C (1,013 hPa)	(measured)
Flash point:	200 °C Literature data.	(closed cup)

Evaporation rate:		
	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability:	hardly combustible	(derived from flash point)
Lower explosion limit:		
	For liquids not relevant for classification and labelling., The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:		
	For liquids not relevant for classification and labelling.	
Ignition temperature:	377 °C Literature data.	
Vapour pressure:	0.00003 Pa (20 °C) Extrapolated value	(measured)
Density:	0.924 - 0.926 g/cm3 (20 °C)	(DIN 51757)
Relative density:	0.92 (20 °C)	(DIN 51757)
Relative vapour density (air):	12.7 (20 °C) Heavier than air.	(calculated)
Solubility in water:	Literature data. 0.0032 mg/l (22 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	8.94 (25 °C)	(OECD Guideline 117)
Self ignition:	Based on its structural properties the product is not classified as self-igniting.	Test type: Spontaneous self-ignition at room-temperature.
Thermal decomposition:	No data available.	
Viscosity, dynamic:	13 - 15 mPa.s (20 °C) The value was determined by calculation from the detected kinematic viscosity.	(calculated (from kinematic viscosity))
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	

9.2. Other information

Self heating ability:	not applicable, the product is a liquid
pKA:	Study scientifically not justified.
Adsorption/water - soil:	KOC: 48630; log KOC: 4.68 (calculated) Adsorption to solid soil phase is expected.
Surface tension:	Study technically not feasible.
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.
Molar mass:	370.57 g/mol

SECTION 10: Stability and Reactivity

10.1. Reactivity
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:	Corrosive effects to metal are not anticipated.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

10.2. Chemical stability
The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions
Reacts with strong oxidizing agents.

10.4. Conditions to avoid
No special precautions other than good housekeeping of chemicals.

10.5. Incompatible materials

Substances to avoid:
strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:
LD50 rat (oral): approx. 24,600 mg/kg (OECD Guideline 401)

LC50 rat (by inhalation): > 5.7 mg/l 4 h (OECD Guideline 403)
No mortality was observed. An aerosol was tested.

LD50 rabbit (dermal): 15,076 mg/kg

Irritation

Assessment of irritating effects:
Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:
Skin corrosion/irritation
rabbit: non-irritant (Draize test)

Serious eye damage/irritation
rabbit: non-irritant (similar to OECD guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:
Draize test guinea pig: Non-sensitizing.

Patch test rabbit: Non-sensitizing. (Patch test)

other in silico: Non-sensitizing. ((Q)SAR Model)

Germ cell mutagenicity

Assessment of mutagenicity:
No mutagenic effect was found in various tests with bacteria, microorganims and mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity

Assessment of carcinogenicity:
Based on available data, the classification criteria are not met. IARC Group 3 (not classifiable as to human carcinogenicity).

Reproductive toxicity

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
Repeated exposure to high doses of the substance causes reversible liver changes in rodents. According to present knowledge, these effects do not occur in man.

Aspiration hazard

not applicable

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
No toxic effects occur within the range of solubility. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. There is a high probability that the product is not acutely harmful to aquatic organisms. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

Toxicity to fish:
LC0 (96 h) > 0.78 mg/l, Oncorhynchus mykiss (other, static)
No mortality was observed. No toxic effects occur within the range of solubility.

Aquatic invertebrates:
EC50 (48 h) > 500 mg/l, Daphnia magna (Directive 79/831/EEC, static)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility.

Aquatic plants:
EC50 (72 h) > 500 mg/l, Scenedesmus subspicatus (DIN 38412 Part 9)
The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. No toxic effects occur within the range of solubility.

Microorganisms/Effect on activated sludge:
EC20 (3 h) > 350 mg/l, activated sludge, domestic, aerobic (DIN EN ISO 8192-OECD 209-88/302/EEC,P. C, aerobic)

Chronic toxicity to fish:
Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:
Lowest observed effect concentration (21 d) > 0.77 mg/l, Daphnia magna (OECD Guideline 202, part 2, semistatic)

Assessment of terrestrial toxicity:
Toxic effects have been observed in studies with soil living organisms.

Soil living organisms:
LC50 (14 d) 865 mg/kg, Eisenia foetida (Directive 88/302/EEC, part C, p. 95, artificial soil)

Terrestrial plants:
No data available.

Other terrestrial non-mammals:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Readily biodegradable (according to OECD criteria).

Elimination information:
approx. 98 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D)

Assessment of stability in water:
In contact with water the substance will hydrolyse slowly.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Does not significantly accumulate in organisms.

Bioaccumulation potential:

Bioconcentration factor (BCF): 27 (28 d), Lepomis macrochirus (measured)

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Dispose of in accordance with national, state and local regulations.

The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).

Contaminated packaging:
Disposal must be made according to official regulations.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number or ID number:	Not applicable

UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user:	None known

Transport in inland waterway vessel

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

UN number or ID number:	Not applicable
UN proper shipping name:	Not applicable

Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Regulation:	IBC-Code
Product name:	Di(2-ethylhexyl)adipate
Pollution category:	Y
Ship Type:	2

SECTION 15: Regulatory Information

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

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
Listed in above regulation: no

The data should be considered when making any assessment under the Control of Substances Hazardous to Health Regulations (COSHH), and related guidance, for example, 'COSHH Essentials' (United Kingdom).

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Product is not classified as hazardous.

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.