SAFETY DATA SHEET

DISFLAMOLL TP LXS 51092

LANXESS Energizing Chemistry

57124708

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

1.1 Product identifier

Product name : DISFLAMOLL TP LXS 51092

REACH Substance Name : Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'

REACH Registration number : 01-2119519251-50-004

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

Suitable uses : plastics additive , Flame-retarding agent.

1.3 Details of the supplier of the safety data sheet

Supplier : LANXESS Deutschland GmbH
Production, Technology, Safety & Environment
51369 Leverkusen, Germany, Telephone: +49 214 30 65109
E-mail: infosds@lanxess.com

1.4 Emergency telephone number : +49 214 30 99300 (Sicherheitszentrale CHEMPARK Leverkusen)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification : Aquatic Acute 1, H400
Aquatic Chronic 1, H410

Classification according to Directive 67/548/EEC [DSD]

Classification : N; R50/53

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H410 - Very toxic to aquatic life with long lasting effects.

Additional warning phrases : Not applicable.

Precautionary statements

Prevention : Avoid release to the environment.

Response : Collect spillage.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : NO

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : NO

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Product definition (REACH) : Multi-constituent substance

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	REACH #: 01-2119519251-50 EC: 700-990-0	>=95	N; R50/53 **See Section 16 for the full text of the R-phrases declared above.**	Aquatic Acute 1, H400 Aquatic Chronic 1, H410 **See Section 16 for the full text of the H statements declared above.**	[*]

Occupational exposure limits, if available, are listed in Section 8.

Type
[*] Substance
[A] Constituent
[B] Impurity
[C] Stabilising additive

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion	:	Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye contact	:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

See Section 11 for more detailed information on health effects and symptoms.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	In case of fire, use water spray (fog), foam, dry chemical or CO_2.
Unsuitable extinguishing media	:	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous combustion products	:	Decomposition products may include the following materials: carbon oxides phosphorus oxides

5.3 Advice for firefighters

Special precautions for fire-fighters	:	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Special protective equipment for fire-fighters	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8).

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not breathe vapour or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

7.2 Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 40°C (104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso II Directive - Reporting thresholds (in tonnes)

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1	100	200
C9i: Very toxic for the environment	100	200

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

Remarks : Ensure effective ventilation. Protect from moisture.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limit values : Not available.

Derived effect levels

Ingredient name	Type	Exposure	Value	Population	Effects	Remarks
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	DNEL	Long term Oral	5,375 mg/ kg bw/day	Consumers	Systemic	-
	DNEL	Long term Inhalation	7,58 mg/ m³	Workers	Systemic	-
	DNEL	Long term Inhalation	1,87 mg/ m³	Consumers	Systemic	-
	DNEL	Long term Dermal	10,75 mg/ kg bw/day	Workers	Systemic	-
	DNEL	Long term Dermal	5,375 mg/ kg bw/day	Consumers	Systemic	-

Conclusion/Summary : Not available.

Predicted No Effect Concentration (PNEC)

Ingredient name	Compartment Detail	Value	Method Detail	Remarks
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	soil	0,252 mg/ kg dwt	Equilibrium Partitioning	-
	Sediment	0,96 mg/ kg dwt	Equilibrium Partitioning	-
	Marine water sediment	0,09 mg/ kg dwt	Equilibrium Partitioning	-
	Marine water	0,0798 µg/l	Assessment Factors	-
	Intermittent release	2,02 µg/l	Assessment Factors	-
	Fresh water	0,798 µg/l	Assessment Factors	-

Conclusion/Summary : Not available.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Risk management measures

Occupational exposure controls

Technical measures : If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protection measures

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
Recommended: (< 1 hour) Nitrile rubber - NBR

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: safety glasses with side-shields

Skin protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: Wear protective clothing.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

Technical measures : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General information

Appearance

Physical state : Liquid.

Important health, safety and environmental information

Flash point : Open cup: 272°C (521.6°F)

Density : 1.18 kg/L (20°C)

Solubility : Insoluble in the following materials: cold water

Partition coefficient: n-octanol/water : 4.85

Viscosity : Dynamic: 70 mPa·s

Decomposition temperature : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No hazardous reactions when used as directed. In a fire, decomposition may produce toxic gases/fumes. Keep away from: strong acids , strong alkalis : Hydrolysis

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Eye contact : No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test

Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	LD50 Oral	-	Rat	5000 mg/kg	-	-
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	LD50 Dermal	-	Rabbit	>2000 mg/kg	-	-
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	LC50 Inhalation Dusts and mists	-	Rat	400 mg/m³	6 hours	-

Irritation/Corrosion

Skin : Non-irritating

Eyes : Non-irritating

Sensitiser

Product/ingredient name	Route of exposure	Species	Result	Test description
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	skin	Mouse	Sensitising	429 Skin Sensitisation: Local Lymph Node Assay
	skin	Human	Not sensitizing	patch test

Potential chronic health effects

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	Sub-chronic NOAEL Oral	Rat	107,5 mg/kg bw/day	90 days

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Experiment: In vitro Subject: Mammalian-Animal	Negative

Reproductive toxicity

Product/ingredient name	Effects	Species	Dose	Exposure / Test

Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	-	Mammal - species unspecified	Oral: 1000 mg/kg bw/day NOAEL	-

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis (4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	EPA	Acute EC50 0,202 mg/l Fresh water	Daphnia	48 hours
	EPA	Acute IC50 3 mg/l Fresh water	Algae - Selenastrum capricornutum	96 hours
	-	Acute LC50 0,8 mg/l	Fish	96 hours
	EPA	Chronic EC50 0,0399 mg/l Reproduction Fresh water	Daphnia - Daphnia magna	21 days
	OECD 215 Fish, Juvenile Growth Test	Chronic NOEC 0,194 mg/l Reproduction	Fish - Pimephales promelas	90 days
	OECD 215 Fish, Juvenile Growth Test	Chronic NOEC 0,093 mg/l Mortality	Fish - Pimephales promelas	90 days

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	-	-	Readily

Product/ingredient name	Rate of degradation/ elimination (%)	Period (days)	Test
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	61 %	28 days	OECD 301D Ready Biodegradability - Closed Bottle Test

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Reaction mass of 4-tert-butylphenyl diphenyl phosphate and bis(4-tert-butylphenyl) phenyl phosphate and triphenyl phosphate'	4,85	1850	high

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : NO

vPvB : NO

12.6 Other adverse effects

Other adverse effects : Not available.

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

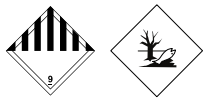
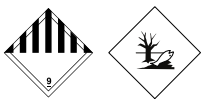
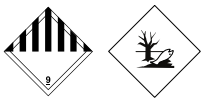
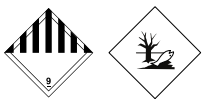
Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYLPHOSPHATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYLPHOSPHATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYLPHOSPHATE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIPHENYLPHOSPHATE)

14.3 Transport hazard class(es)/ Marks	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes	Yes
14.6 Special precautions for user/Additional information	**Hazard identification number** 90	**Hazard identification number** 90	**Emergency schedules (EmS)** F-A, S-F	**Passenger aircraft** 964: 450 L **Cargo aircraft** 964: 450 L

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Hazard notes:

Environmentally hazardous substance.
Keep separated from foodstuffs.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Other EU regulations

Seveso III Directive

This product is controlled under the Seveso III Directive.

Danger criteria

Category
E1: Hazardous to the aquatic environment - Acute 1 or Chronic 1 C9i: Very toxic for the environment

15.2 Chemical Safety Assessment : Not yet complete.

SECTION 16: Other information

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Full text of abbreviated H statements :

H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Aquatic Chronic 1, H410	LONG-TERM AQUATIC HAZARD - Category 1

Full text of R-phrases referred to in sections 2 and 3 : R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

History

Date of issue : **2015-04-14**

Date of previous issue : **2013-11-14**

Version : **2.04**

Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACh)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.