

Product name: KOSMOS T 12 N

SAFETY DATA SHEET

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

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

1.1 Product identifier

Product name:
KOSMOS T 12 N

Chemical name:
Dibutyl tin dilaurate

Additional identification

Chemical name:	Dibutyltin dilaurate
Chemical formula:	-
INDEX No.	-
CAS-No.	77-58-7
EC No.	201-039-8
REACH Registration No.:	01-2119496068-27

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

Identified uses: Industrial use

Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet

Company Name	: Evonik Operations GmbH Rellinghauser Str. 1-11 45128 Essen Germany
Telephone	: +49 201 173 01
Fax	: +49 201 173 3000
E-mail	: productsafety-sp@evonik.com

1.4 Emergency telephone number:

24-Hour Health Emergency	: +49 2365 49 2232 +49 2365 49 4423 (Fax)
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National Poison Information Service (NPIS)
England, Scotland and Wales: NHS: 111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Product name: KOSMOS T 12 N

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567
Health Hazards

Serious eye irritation	Category 2	H319: Causes serious eye irritation.
Skin sensitizer	Category 1	H317: May cause an allergic skin reaction.
Germ Cell Mutagenicity	Category 2	H341: Suspected of causing genetic defects.
Toxic to reproduction	Category 1B	H360FD: May damage fertility. May damage the unborn child.
Specific Target Organ Toxicity - Single Exposure	Category 1	H370: Causes damage to organs.
Specific Target Organ Toxicity - Repeated Exposure	Category 1	H372: Causes damage to organs through prolonged or repeated exposure.

Environmental Hazards

Acute hazards to the aquatic environment	Category 1	H400: Very toxic to aquatic life.
Chronic hazards to the aquatic environment	Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label Elements

Signal Words: Danger

Hazard Statement(s):

H319: Causes serious eye irritation.
 H317: May cause an allergic skin reaction.
 H340: May cause genetic defects.
 H360FD: May damage fertility. May damage the unborn child.
 H370: Causes damage to organs.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P260: Do not breathe dust/fume/gas/mist/vapors/spray.
 P270: Do not eat, drink or smoke when using this product.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P337+P313: If eye irritation persists: Get medical advice/attention.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P391: Collect spillage.

Product name: KOSMOS T 12 N

2.3 Other hazards

None known.

PBT/vPvB data

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

Chemical name:

Dibutyl tin dilaurate

3.1 Substances

Chemical name:	Dibutyltin dilaurate
INDEX No.:	
CAS-No.:	77-58-7
EC No.:	201-039-8
Chemical name:	Dibutyltin dilaurate
INDEX No.:	
CAS-No.:	77-58-7
EC No.:	201-039-8
REACH Registration No.:	01-2119496068-27

Chemical name	Concentration	CAS-No.	EC No.	UK-REACH Registration No.	REACH Registration No.	M-Factor:	Notes
Dibutyltin dilaurate	50 - <100%	77-58-7	201-039-8		01-2119496068-27	Aquatic Toxicity (Acute): 1; Aquatic Toxicity (Chronic): 1	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

This substance is listed as SVHC.

Classification

Chemical name	Classification	Notes
Dibutyltin dilaurate	Classification: Eye Irrit.: 2: H319; Skin Sens.: 1: H317; Muta.: 2: H341; Repr.: 1B: H360FD; STOT SE: 1: H370; STOT RE: 1: H372; Aquatic Acute: 1: H400; Aquatic Chronic: 1: H410; Supplemental label information: None known.	None.

SECTION 4: First aid measures

Product name: KOSMOS T 12 N

4.1 Description of first aid measures

General information:	Remove soiled or soaked clothing immediately Symptoms of poisoning may appear several hours later. Keep under medical supervision for at least 48 hours.
Inhalation:	fresh air supply, consult a doctor if feeling unwell.
Skin Contact:	In case of contact with skin wash off with soap and water. Get medical attention immediately.
Eye contact:	In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice
Ingestion:	Thoroughly clean the mouth with water Call for medical advice immediately; show this safety data sheet
Personal Protection for First-aid Responders:	No data available.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	corrosive effects sensitising effects toxic effects for reproduction mutagenic effects
Hazards:	No data available.

4.3 Indication of immediate medical attention and special treatment needed

Treatment:	Treat symptomatically.
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SECTION 5: Firefighting measures

General Fire Hazards:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
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5.1 Extinguishing media

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

Unsuitable extinguishing media: High volume water jet.

5.2 Special hazards arising from the substance or mixture:

In the event of fire the following can be released: - carbon dioxide, carbon monoxide - Tin oxide Under certain conditions of combustion traces of other toxic substances cannot be excluded

5.3 Advice for firefighters

Special fire fighting procedures: No specific precautions.

Special protective equipment for fire-fighters: Do not inhale explosion and/or combustion gases. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. Ensure adequate ventilation.
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Product name: KOSMOS T 12 N

- 6.1.1 For non-emergency personnel:** No data available.
- 6.1.2 For emergency responders:** No data available.
- 6.2 Environmental Precautions:** Do not allow to enter drains or waterways Prevent product from getting into subsoil/soil.
- 6.3 Methods and material for containment and cleaning up:** Take up with absorbent material (eg sand, kieselguhr, universal binder) Dispose of absorbed material in accordance with the regulations.
- 6.4 Reference to other sections:** For further information on exposure monitoring and disposal see sections 8 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Technical measures:** No data available.
- Local/Total ventilation:** No data available.
- Safe handling advice:** Avoid contact with skin and eyes. Do not inhale gases/vapours/aerosols. Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid formation of aerosol.
- Contact avoidance measures:** No data available.

7.2 Conditions for safe storage, including any incompatibilities

- Safe storage conditions:** Keep container tightly closed in a cool, well-ventilated place. Do not store or transport together with foodstuffs
- Safe packaging materials:** No data available.

7.3 Specific end use(s):

No further recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

Chemical name	Type	Form of exposure	Exposure Limit Values		Source
Dibutyltin dilaurate	STEL 15 minutes	as Sn		0.2 mg/m ³	EH40 WEL (01 2020)
	TWA	as Sn		0.1 mg/m ³	EH40 WEL (12 2011)
Bis(tributyltin) oxide	TWA	as Sn		0.1 mg/m ³	EH40 WEL (12 2011)
	STEL 15 minutes	as Sn		0.2 mg/m ³	EH40 WEL (01 2020)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Product name: KOSMOS T 12 N
DNEL-Values

Remarks: DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
Dibutyltin dilaurate	Workers	Dermal	Systemic, short-term; 2.08 mg/kg	Immunotoxicity
	Workers	Inhalation	Systemic, short-term; 0.059 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, short-term; 0.02 mg/kg	developmental toxicity / teratogenicity
	General population	Dermal	Systemic, short-term; 0.5 mg/kg	Immunotoxicity
	General population	Dermal	Systemic, long-term; 0.16 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0.43 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 0.005 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0.003 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 0.04 mg/m ³	developmental toxicity / teratogenicity
	Workers	Inhalation	Systemic, long-term; 0.02 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effect;	No hazard identified
	General population	Eyes	Local effect;	No hazard identified

PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
Dibutyltin dilaurate	Aquatic (freshwater)	0 mg/l	
	Aquatic (marine water)	0 mg/l	
	Predator	0.2 mg/kg	Oral
	Sediment (marine water)	0.005 mg/kg	
	Soil	0.041 mg/kg	Soil
	Sewage treatment plant	100 mg/l	
	Sediment (freshwater)	0.05 mg/kg	

8.2 Exposure controls
Appropriate Engineering Controls: No data available.

Individual protection measures, such as personal protective equipment
Eye/face protection: Tightly fitting safety goggles

Hand Protection:

Material: gloves made of natural latex
 Break-through time: > 60 min
 Glove thickness: 0.5 mm
 Additional Information: The protective gloves to be worn must satisfy the specifications of Regulation (EU) 2016/425 and the resulting Standard EN374., Specific workplace situations must be considered separately.

Material: gloves made of natural latex
 Break-through time: > 120 min
 Glove thickness: 1 mm

Material: gloves made of chloroprene (CR, e.g. Neoprene)
 Break-through time: > 480 min
 Glove thickness: 0.6 mm

Material: gloves made of nitril (NBR)
 Break-through time: > 480 min
 Glove thickness: 0.4 mm

Material: gloves made of butyl (IIR)
 Break-through time: > 480 min
 Glove thickness: 0.3 mm

Product name: KOSMOS T 12 N

Skin and Body Protection:	protective clothing
Respiratory Protection:	in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2
Hygiene measures:	Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Remove soiled or soaked clothing immediately.
Environmental Controls:	The environmental regulations on the control and monitoring of environmental exposures are to be observed.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	yellowish
Odor:	Characteristic
Odor Threshold:	not measured
Freezing point:	16 - 18 °C Method: DIN/ISO 3016
Boiling Point:	> 200 °C
Flammability:	No data available.
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	Not applicable
Explosive limit - lower:	Not applicable
Flash Point:	> 180 °C Method: DIN EN 22719
Auto-ignition temperature:	not measured
Decomposition Temperature:	not measured
pH:	Not determined.

Viscosity

Dynamic viscosity:	30 mPa.s at 20 °C Method: DIN 53019
Kinematic viscosity:	No data available.

Solubility(ies)

Solubility in Water:	Marginally Soluble
Solubility (other):	not measured

Partition coefficient (n-octanol/water): not measured

Vapor pressure: 0.00077 hPa

Relative density: No data available.

Density: 1.03 g/cm³ at 20 °C
Method: DIN 51757

Relative vapor density: not measured

Product name: KOSMOS T 12 N

9.2 Other information

Explosive properties:	no danger of explosion
Oxidizing properties:	not measured
Self-ignition:	not measured
Metal Corrosion:	not measured
Evaporation Rate:	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity:	see section "Possibility of hazardous reactions".
10.2 Chemical Stability:	The product is stable under normal conditions.
10.3 Possibility of hazardous reactions:	No hazardous reactions with proper storage and handling
10.4 Conditions to avoid:	Unknown
10.5 Incompatible Materials:	Unknown
10.6 Hazardous Decomposition Products:	None with proper storage and handling.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Inhalation:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Skin Contact:	Relevant route of exposure. Information on effects are given below.
Eye contact:	Relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Acute toxicity (list all possible routes of exposure)

Oral

Product:	LD 50, Rat, 2,071 mg/kg, OECD 401
Components:	
Dibutyltin dilaurate	LD 50, Rat, Female, Male, 2,071 mg/kg, OECD 401

Dermal

Product:	LD 50, Rat, > 2,000 mg/kg, OECD 402
Components:	
Dibutyltin dilaurate	LD 50, Rat, Female, Male, > 2,000 mg/kg, OECD 402

Inhalation

Product:	Not classified for acute toxicity based on available data.
Components:	
Dibutyltin dilaurate	Vapour, Not toxic after single exposure, No data available. Dust and mist, Not toxic after single exposure, No data available.

Product name: KOSMOS T 12 N

Repeated dose toxicity**Product:** No data available.**Components:**
Dibutyltin dilaurate No data available.**Skin Corrosion/Irritation****Product:** not corrosive, non- corrosive, Based on available data, the classification criteria are not met.**Components:**
Dibutyltin dilaurate Not irritating, OECD 431, Human, reconstructed epidermis (RhE) model**Serious Eye Damage/Eye Irritation****Product:** Causes serious eye irritation., OECD 405, Rabbit, Severely irritating to eyes.**Components:**
Dibutyltin dilaurate Irritating., OECD 405, Rabbit**Respiratory or Skin Sensitization****Product:** OECD 406, Guinea Pig, Sensitising**Components:**
Dibutyltin dilaurate Maximization Test, OECD 406, Guinea Pig, May cause sensitization by skin contact.**Carcinogenicity****Product:** Based on available data, the classification criteria are not met.**Components:**
Dibutyltin dilaurate No data available.**Germ Cell Mutagenicity**

Category 1B Mutagen.

In vitro**Product:** No data available.**Components:**
Dibutyltin dilaurate Ames test, OECD 471: , negative**In vivo****Product:** No data available.**Components:**
Dibutyltin dilaurate No data available.**Reproductive toxicity****Product:** May damage fertility. May damage the unborn child.**Components:**
Dibutyltin dilaurate Presumed human reproductive toxicant May damage fertility. May damage the unborn child.**Specific Target Organ Toxicity - Single Exposure****Product:** thymus gland, Causes damage to organs.**Components:**
Dibutyltin dilaurate Inhalation - vapor Oral Dermal, thymus, Category 1, Causes damage to organs.**Specific Target Organ Toxicity - Repeated Exposure****Product:** thymus gland, Causes damage to organs through prolonged or repeated exposure.

Product name: KOSMOS T 12 N

Components:

Dibutyltin dilaurate Inhalation - vapor Oral Dermal, thymus, Category 1 Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard

Product: Not classified

Components:

Dibutyltin dilaurate Not classified

11.2 Information on other hazards

Other information

Product: None known.;

SECTION 12: Ecological information

12.1 Toxicity:

Acute hazards to the aquatic environment:

Fish

Product: LC 50, Zebra Fish, 96 h, 3.1 mg/l OECD 203

Components:

Dibutyltin dilaurate LC 50, Danio rerio, 96 h, 3.1 mg/l OECD 203

Aquatic Invertebrates

Product: EC 50, Daphnia magna, 48 h, 463 µg/l OECD 202

Components:

Dibutyltin dilaurate EC 50, Daphnia magna, 48 h, 0.46 mg/l OECD 202
 NOEC, Daphnia magna, 48 h, 1.7 mg/l OECD 202

Toxicity to Aquatic Plants

Product: EC 50 (Desmodesmus subspicatus (green algae), 72 h): > 1 mg/l (OECD 201)

Components:

Dibutyltin dilaurate EC 50 (Desmodesmus subspicatus (green algae), 72 h): 1 mg/l (OECD 201)

Toxicity to microorganisms

Product: No data available.

Components:

Dibutyltin dilaurate EC 50, activated sludge, 3 h, > 1,000 mg/l, OECD 209
 NOEC, activated sludge, 3 h, 1,000 mg/l, OECD 209

Toxicity to soil dwelling organisms

Product: No data available.

Components:

Dibutyltin dilaurate No data available.

Toxicity to terrestrial organisms

Product: No data available.

Components:

Dibutyltin dilaurate No data available.

Chronic hazards to the aquatic environment:

Fish

Product name: KOSMOS T 12 N

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

Aquatic Invertebrates

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

Toxicity to microorganisms

Product: No data available.

Components:
 Dibutyltin dilaurate EC 50, activated sludge, 3 h, > 1,000 mg/l, OECD 209
 NOEC, activated sludge, 3 h, 1,000 mg/l, OECD 209

Toxicity to soil dwelling organisms

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

Toxicity to terrestrial organisms

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

12.2 Persistence and Degradability
Biodegradation

Product: No data available.

Components:
 Dibutyltin dilaurate 23 %, 39 d, OECD 301 F, The product is not biodegradable., anaerobic

BOD/COD Ratio

Product: No data available.

12.3 Bioaccumulative potential
Bioconcentration Factor (BCF)

Product: No data available.

Components:
 Dibutyltin dilaurate No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: not measured

Components:
 Dibutyltin dilaurate 4.44

12.4 Mobility in soil:

Product No data available.

Components:
 Dibutyltin dilaurate No data available.

Product name: KOSMOS T 12 N

12.5 Results of PBT and vPvB assessment:

Product	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Components: Dibutyltin dilaurate	Non-classified vPvB substance, Non-classified PBT substance

12.6 Other adverse effects:

Other hazards Product:	Do not allow to enter soil, waterways or waste water canal.
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SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information:	No data available.
Disposal methods:	In accordance with local authority regulations, take to special waste incineration plant
Contaminated Packaging:	If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

SECTION 14: Transport information

14.1 UN/ID No.

ADR	:	UN 3082
RID	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibutyl tin dilaurate)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibutyl tin dilaurate)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Dibutyl tin dilaurate)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Dibutyl tin dilaurate)

14.3 Transport hazard class(es)

ADR	:	9
RID	:	9
IMDG	:	9

Product name: KOSMOS T 12 N

IATA : 9**14.4 Packing group****ADR**Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)**RID**Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9**IMDG**Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : IMDG Code segregation group 7 - Heavy metals and their salts (incl. their organometallic compounds)**IATA (Cargo aircraft only)**Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : 9MI**IATA (Passenger and cargo aircraft)**Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : 9MI**14.5 Environmental hazards****ADR**

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger and cargo aircraft)

Environmentally hazardous : yes

IATA (Cargo aircraft only)

Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Product name: KOSMOS T 12 N

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

EU Regulations

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:

Classification	Lower-tier Requirements	Upper-tier Requirements
E1. Hazardous to the aquatic environment	100 t	200 t
H3. STOT SE	50 t	200 t

15.2 Chemical safety assessment: No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms:

EH40 WEL: UK. EH40 Workplace Exposure Limits (WELs), as amended
 EH40 WEL / STEL: Short Term Exposure Limit (STEL);
 EH40 WEL / TWA: Time Weighted Average (TWA):

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; EIGA - European Industrial Gases Association; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United

Product name: KOSMOS T 12 N

Nations; vPvB - Very Persistent and Very Bioaccumulative

Key literature references and sources for data: No data available.

Training information: Comply with national laws regulating employee instruction.

Other information: Precautions to be observed for storage of hazardous substances: TRGS 510 "Storage of Hazardous Substances in Movable Containers". BG Info Sheet M 050 "Activities Involving Hazardous Substances" Special local regulations must be adhered if using Note employment restrictions for minors. Observe employment restrictions for child bearing mothers and nursing mothers.

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer: This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used.