

SAFETY DATA SHEET

Preparation Date: 2/24/2017

Revision date 12/13/2018

Revision Number: G2

1. Identification

Product identifier

Product code: T1100
Product Name: N-TRIBUTYL PHOSPHATE

Other means of identification

Synonyms: Tributilfosfato (Italian)
 Tributyle (phosphate de) (French)
 Tributyl phosphate
 Tri-n-butyl phosphate

CAS #: 126-73-8
RTECS # TC7700000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Plasticizer.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

Label elements

Warning

Hazard statements

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Harmful if swallowed
Harmful if inhaled
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation. May cause drowsiness or dizziness



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Toxic to aquatic life with long lasting effects
May be harmful in contact with skin

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
n-Tributyl Phosphate	126-73-8	100

4. FIRST AID MEASURES

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First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes serious eye irritation
 - Causes skin irritation
 - Irritating to respiratory system
 - May cause pulmonary edema
 - Dyspnea (Shortness of breath and difficulty breathing)
 - May cause cyanosis
 - May cause bronchitis
 - May cause nausea and headache
 - May cause drowsiness or dizziness
 - Tremors
 - Convulsions
 - May affect the liver
 - It may affect the kidneys

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous combustion products Carbon Monoxide, Carbon Dioxide. Oxides of phosphorus.

Specific hazards May be combustible at high temperatures. May be ignited by heat, sparks or flames.

Special Protective Actions for Firefighters

Specific Methods: No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Strong bases
Oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
n-Tributyl Phosphate	126-73-8	5 mg/m ³ TWA	0.2 ppm TWA 2.5 mg/m ³ TWA	5 mg/m ³ TWA inhalable fraction and vapor	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
n-Tributyl Phosphate	126-73-8	0.2 ppm TWA 2.2 mg/m ³ TWA	0.2 ppm TWA	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
n-Tributyl Phosphate	126-73-8	0.2 ppm TWA 2.2 mg/m ³ TWA	0.2 ppm TWA 2.5 mg/m ³ TWA 0.4 ppm STEL 5 mg/m ³ STEL

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:

Goggles

Skin and body protection:

Long sleeved clothing
Chemical resistant apron
Gloves

Respiratory protection:

Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid

Appearance:

Clear.

Color:

Colorless. Light yellow.

Odor:

No information available.

Taste

No information available.

Formula

C₁₂H₂₇P-O₄

Molecular/Formula weight (g/mole):

266.32

Flammability (solid, gas)

no data available

Flashpoint (°C/°F):

146 °C/295 °F

Flash Point Tested according to:

Open cup

Autoignition Temperature (°C/°F):

No information available

Lower Explosion Limit (%):

No information available

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

No information available

Decomposition temperature(°C/°F):

No information available

Boiling point/range(°C/°F):

289 °C/552 °F

Bulk density:

No information available

Density (g/cm³):

No information available

Specific gravity:

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0.9727

pH
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
9.20

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
Log Kow = 4

Viscosity:
No information available

Miscibility:
Miscible with Ethanol

Solubility:
Soluble in diethyl ether
Soluble in Benzene
Soluble in Carbon Disulfide
Slightly soluble in water
Solubility in Water: 280 mg/l

10. STABILITY AND REACTIVITY

Reactivity

Reactive with strong oxidizing agents
Reacts with strong bases

Chemical stability

Stability: Sensitive to air.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Strong bases
Oxidizing agents

Hazardous decomposition products: Carbon oxides.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Inhalation. Ingestion.

Acute Toxicity

Component Information

n-Tributyl Phosphate

CAS No 126-73-8

LD50/oral/rat = 1390 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

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LD50/dermal/rabbit = >3100 mg/kg Dermal LD50Rabbit
>10000 mg/kg
LD50/dermal/rat = No information available
LC50/inhalation/rat = 28 g/m³ Inhalation LC50 Rat 1 h
1.359mg/L Inhalation LC50Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =
Value - Acute Tox = 1390 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
Value - Acute Tox = > 3100 mg/kg

LD50/dermal/rat
VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = 1.359 mg/l (4-hr)
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation.

Eye Contact: Causes serious eye irritation.

Inhalation Harmful by inhalation. Irritating to respiratory system. Can cause dyspnea (shortness of breath and difficulty breathing). May cause cyanosis. It may cause pulmonary edema. May cause central nervous system effects, central nervous system depression. May cause drowsiness/sleepiness. It may affect behavior/central nervous system (convulsions/seizures). It may affect behavior/central nervous system (tremors). May cause nausea and headache.

Ingestion Harmful if swallowed.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may affect the liver. Prolonged or repeated ingestion may affect the kidneys. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may cause bronchitis with coughing, phlegm, and/or shortness of breath.

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Suspected of causing cancer.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
n-Tributyl Phosphate	126-73-8	Not listed	A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure respiratory system. central nervous system.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

n-Tributyl Phosphate - 126-73-8

Algae/aquatic plants

EC50: =4.4mg/L (96h, Pseudokirchneriella subcapitata) EC50: =1.1mg/L (72h, Desmodesmus subspicatus)

Fish

LC50: =4.2mg/L (96h, Oncorhynchus mykiss) LC50: =13mg/L (96h, Oncorhynchus mykiss) LC50: 7.66 - 8.74mg/L (96h, Pimephales promelas) LC50: 1.0 - 10.0mg/L (96h, Pimephales promelas) LC50: =8.18mg/L (96h, Pimephales promelas) LC50: =4.5mg/L (96h, Oryzias latipes) LC50: =9.6mg/L (96h, Oryzias latipes)

Crustacea

EC50: 1.58 - 8.43mg/L (48h, Daphnia magna)

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
n-Tributyl Phosphate	126-73-8	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available
Description: No information available

ADR

UN Number Not regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Packing group No information available
Subsidiary Risk: No information available

IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No information available

RID

UN Number Not Regulated

Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available

ICAO (air)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available
Precautionary Statements - Response IF exposed or concerned
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
<i>n-Tributyl Phosphate</i>	126-73-8	Present ACTIV E	Present KE-34036	Present	Present (2)-2000,(2)-2021	Present	Present	Present 204-800-2

U.S. Regulations

n-Tributyl Phosphate

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: 1880
- Pennsylvania RTK: Present
- Minnesota - Hazardous Substance List: Present
- California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>n-Tributyl Phosphate</i>	126-73-8	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis

n-Tributyl Phosphate	126-73-8	None	None	None	None	None
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U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
n-Tributyl Phosphate	126-73-8	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
n-Tributyl Phosphate
126-73-8 (100)

WHMIS 2015 Hazard Classification
Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.;
Skin corrosion/irritation - Category 2: H315 Causes skin irritation.;
Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.;
Carcinogenicity - Category 2: H351 Suspected of causing cancer.

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Component	WHMIS Ingredient Disclosure List -
n-Tributyl Phosphate	1 %

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
n-Tributyl Phosphate	126-73-8	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
n-Tributyl Phosphate	126-73-8	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
n-Tributyl Phosphate	126-73-8	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
n-Tributyl Phosphate	126-73-8	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation.; Carcinogenicity - Carc. 2: H351 Suspected of causing cancer.015-014-00-2

EU - CLP (1272/2008)

R-phrases(s)

R22 - Harmful if swallowed
R38 - Irritating to skin

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R40 - Limited evidence of a carcinogenic effect

S -phrase(s)

S 2 - Keep out of the reach of children.

S46 - If swallowed, seek medical advice immediately and show this container or label

S36/37 - Wear suitable protective clothing and gloves

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
n-Tributyl Phosphate	126-73-8	Xn; R22 Xi; R38 Carc.Cat.3; R40	No information	S:(2)-36/37-46

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful

Xi - Irritant

Xn



Xi



16. OTHER INFORMATION

Preparation Date: 2/24/2017
Revision date 12/13/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet