



TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 13/11/2019

Revision date:

Version: 1.0

CLM-10224-S

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

1.1. Product identifier

Product form : Mixtures
Product name : TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE
Product code : CLM-10224-S

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flam. Liq. 2 H225
Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Dermal) H312
Acute Tox. 4 (Inhalation) H332
Eye Irrit. 2 H319

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11
Xn; R20/21/22
Xi; R36

Full text of R-phrases: see section 16

GHS-US classification

Flam. Liq. 2 H225
Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Dermal) H312
Acute Tox. 4 (Inhalation) H332
Eye Irrit. 2 H319

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS07

Signal word (CLP) :

Danger

Hazardous ingredients :

ACETONITRILE UNLABELED

Hazard statements (CLP) :

H225 - Highly flammable liquid and vapor
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H319 - Causes serious eye irritation

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/bond container and receiving equipment.
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

GHS07

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical/ventilating/lighting equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a poison center or doctor if you feel unwell
P322 - Specific treatment (see supplemental first aid instruction on this label)
P330 - Rinse mouth.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
ACETONITRILE UNLABELED	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3 (REACH-no) 01-2119471307-38	99.975	F; R11 Xi; R36 Xn; R20/21/22
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%)	(CAS-No.) 68937-41-7 (Unlabeled) (EC-No.) 273-066-3 (Unlabeled) (EC Index-No.) (REACH-no) 01-2119535109-41	0.025	Repr.Cat.3; R62 Repr.Cat.3; R63 Xn; R48/22 N; R51/53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
ACETONITRILE UNLABELED	(CAS-No.) 75-05-8 (EC-No.) 200-835-2 (EC Index-No.) 608-001-00-3 (REACH-no) 01-2119471307-38	99.975	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%)	(CAS-No.) 68937-41-7 (Unlabeled) (EC-No.) 273-066-3 (Unlabeled) (EC Index-No.) (REACH-no) 01-2119535109-41	0.025	Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Name	Product identifier	%	GHS-US classification
ACETONITRILE UNLABELED	(CAS-No.) 75-05-8	99.975	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%)	(CAS-No.) 68937-41-7 (Unlabeled)	0.025	Acute Tox. 2 (Inhalation:dust,mist), H330 Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Evacuate area.
First-aid measures after inhalation	: Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Call a physician immediately. Get immediate medical advice/attention.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Immediately call a poison center or doctor/physician. Specific measures (see Hazard pictograms (CLP) on this label). Wash with plenty of soap and water. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Get immediate medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor.
Explosion hazard : May form flammable/explosive vapor-air mixture.
Reactivity : Vapors may form explosive mixture with air.

5.3. Advice for firefighters

Firefighting instructions : Wear a self contained breathing apparatus. Fight fire with normal precautions from a reasonable distance.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus, rubber boots and thick rubber gloves.
Other information : Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment as required. Avoid breathing vapors, mist, gas. Ensure adequate air ventilation. Evacuate unnecessary personnel. Eliminate all ignition sources if safe to do so. Provide adequate ventilation to minimize dust and/or vapor concentrations. Special attention should be given to low areas/pits where flammable vapors can accumulate.

6.1.2. For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dike and contain spill. Disposal should be in accordance with applicable Federal, State and local regulations.
Methods for cleaning up : Collect spillage. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid all eye and skin contact and do not breathe vapor and mist. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Handle empty containers with care because residual vapors are flammable.
Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof Lighting equipment, ventilating equipment.
Storage conditions : Store at room temperature away from light and moisture.
Incompatible materials : Heat sources.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20.00000000 ppm Lower Respiratory Tract irritation. Not classifiable as a human carcinogen.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	34 mg/m ³ Forms Cyanide in the body.
USA NIOSH	NIOSH REL (TWA) (ppm)	20 ppm Forms Cyanide in the body.
USA OSHA	OSHA PEL (TWA) (mg/m ³)	70 mg/m ³ The value in mg/m ³ is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	40 ppm The value in mg/m ³ is approximate.
ACETONITRILE UNLABELED (75-05-8)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20.00000000 ppm Lower Respiratory Tract irritation. Not classifiable as a human carcinogen.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	34 mg/m ³ Forms Cyanide in the body.
USA NIOSH	NIOSH REL (TWA) (ppm)	20 ppm Forms Cyanide in the body.
USA OSHA	OSHA PEL (TWA) (mg/m ³)	70 mg/m ³ The value in mg/m ³ is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	40 ppm The value in mg/m ³ is approximate.

8.2. Exposure controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety procedures.
Personal protective equipment : Protective clothing. Protective goggles. Gloves. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.
Hand protection : Wear suitable protective clothing and gloves.
Eye protection : Chemical goggles or face shield with safety glasses.
Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid, Clear
Molecular mass : 41.05 g/mol
Color : Colorless
Odor : Ether-like
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : -48 °C (-54°F)
Freezing point : No data available
Boiling point : 81 - 82 °C (178 - 180 °F)
Flash point : 2 °C (35.6 °F) - closed cup
Auto-ignition temperature : 523 °C (973 °F)
Decomposition temperature : No data available
Flammability (solid, gas) : Highly flammable liquid and vapor
Vapor pressure : 73.18 hPa (54.89 mmHg) at 15°C (59 °F), 119.81 hPa (89.86 mmHg) at 25°C(77 °F)
Relative vapor density at 20 °C : 1.42 - (Air = 1.0)
Relative density : No data available
Specific gravity / density : 0.786 g/ml
Solubility : Water: 100 %

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

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Log Pow	: -0.34
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 4.4 - 16 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

Highly flammable liquid and vapor.

10.4. Conditions to avoid

Heat. Open flame. Direct sunlight. Sparks. Extremely high or low temperatures.

10.5. Incompatible materials

Acids, Bases, Oxidizing agents, Reducing agents, Alkali metals.

10.6. Hazardous decomposition products

May release flammable gases. Carbon oxides (CO, CO₂). Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled.

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE	
LD50 oral rat	2460 mg/kg
LD50 dermal rabbit	2000 mg/kg
LC50 inhalation rat (mg/l)	≥ 26.8 mg/l
LC50 inhalation rat (ppm)	7551 ppm - 8h
ATE CLP (oral)	500.125 mg/kg body weight
ATE CLP (dermal)	2000.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h
ACETONITRILE UNLABELED (75-05-8)	
LD50 oral rat	2460 mg/kg
LD50 dermal rabbit	2000 mg/kg
LC50 inhalation rat (mg/l)	≥ 26.8 mg/l
LC50 inhalation rat (ppm)	7551 ppm - 8h
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	2000.000 mg/kg body weight
ATE CLP (gases)	4500.000 ppmV/4h
ATE CLP (vapors)	11.000 mg/l/4h
ATE CLP (dust, mist)	1.500 mg/l/4h
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))	
LD50 oral rat	2530 - 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
LC50 inhalation rat (mg/l)	200 mg/m ³
ATE CLP (oral)	2530.000 mg/kg body weight
ATE CLP (vapors)	0.200 mg/l/4h
ATE CLP (dust, mist)	0.200 mg/l/4h

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

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Skin corrosion/irritation	: Not classified Skin - Rabbit - No skin irritation
Serious eye damage/irritation	: Causes serious eye irritation. Eyes - Rabbit - Irritating to eyes
Respiratory or skin sensitization	: Did not cause sensitization on laboratory animals. Buehler Test - Guinea pig - Did not cause sensitization on laboratory animals - (OECD 406 method)
Germ cell mutagenicity	: Not classified
Carcinogenicity	: No evidence of carcinogenicity in animal studies (when indicated).
Reproductive toxicity	: Animal testing did not show any effects on fertility.
Specific target organ toxicity – single exposure	: Not classified The substance or mixture is not classified as specific target organ toxicant.
Specific target organ toxicity – repeated exposure	: Not classified The substance or mixture is not classified as specific target organ toxicant.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Treat as cyanide poisoning. Always have on hand a cyanide first-aid kit, together with proper instructions. The onset of symptoms is generally delayed pending conversion to cyanide. Nausea, Vomiting, Diarrhea, Headache, Dizziness, Rash, Cyanosis, Excitement, Depression, Drowsiness, Impaired judgment, Lack of coordination, Stupor, Death. Lungs - Lung edema - Based on human evidence. Harmful if swallowed. Harmful in contact with skin. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: Harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE	
LC50 fish 1	1640 mg/l Pimephales promelas (fathead minnow) - 96h
EC50 Daphnia 1	3600 mg/l Daphnia magna (Water flea) - 48h
NOEC (chronic)	640 mg/l Daphnia magna (Water flea) - 14d
ACETONITRILE UNLABELED (75-05-8)	
LC50 fish 1	1640 mg/l Pimephales promelas (fathead minnow) - 96h
EC50 Daphnia 1	3600 mg/l Daphnia magna (Water flea) - 48h
NOEC (chronic)	640 mg/l Daphnia magna (Water flea) - 14d
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))	
LC50 fish 1	0.36 mg/l semi-static test - Oncorhynchus mykiss (Rainbow trout) - 96 h
LC50 other aquatic organisms 1	1000 mg/l static test - Brachydanio rerio - 96 h
EC50 Daphnia 1	1 mg/l Daphnia magna - 48 h
LC50 fish 2	10.8 mg/l static test - Pimephales promelas - 96 h
LC50 other aquatic organisms 2	> 1.3 mg/l Cyprinodon variegatus (Sheepshead minnow)

12.2. Persistence and degradability

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE		
Persistence and degradability	Biodegradability	Result: - Readily biodegradable.
ACETONITRILE UNLABELED (75-05-8)		
Persistence and degradability	Biodegradability	Result: - Readily biodegradable.

12.3. Bioaccumulative potential

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE	
Log Pow	-0.34
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

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ACETONITRILE UNLABELED (75-05-8)	
Log Pow	-0.34
Bioaccumulative potential	No bioaccumulation is to be expected (log Pow <= 4).

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))	
Log Pow	4.92 - 5.17

12.4. Mobility in soil

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE	
Ecology - soil	Not expected to absorb on soil.

ACETONITRILE UNLABELED (75-05-8)	
Ecology - soil	Not expected to absorb on soil.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations. May cause long lasting harmful effects to aquatic life.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No.(DOT) : 1648
DOT NA no. UN1648

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Acetonitrile
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

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Overland transport

Hazard identification number (Kemler No.) : 33

Orange plates :



Tunnel restriction code (ADR) : D/E

Limited quantities (ADR) : 1I

EAC : •2YE

Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

MFAG-No : 127

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
ACETONITRILE UNLABELED (75-05-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2. International regulations

CANADA

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE()

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

ACETONITRILE UNLABELED (75-05-8)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

ACETONITRILE UNLABELED (75-05-8)

State or local regulations

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) (68937-41-7 (Unlabeled))

State or local regulations

U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2

TRIS (4-ISOPROPYLPHENYL) PHOSPHATE (RING-13C18, 99%) 100 UG/ML IN ACETONITRILE

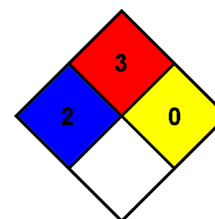
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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H225	Highly flammable liquid and vapor
H302	Harmful if swallowed
H312	Harmful in contact with skin
H319	Causes serious eye irritation
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects
R11	Highly flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed
R36	Irritating to eyes
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
F	Highly flammable
N	Dangerous for the environment
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product