

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/04/2014 Revision date: : Version: 1.0

ULM-6134-S

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

1.1. Product identifier

Product form : Mixtures

Product name. : 2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

Product code : ULM-6134-S

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

1.2.1. Relevant identified uses

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

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours) International: 1-202-483-7616 (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. 3
 H226

 Acute Tox. 4 (Inhalation:dust,mist)
 H332

 Skin Irrit. 2
 H315

 Eye Irrit. 2
 H319

 STOT SE 3
 H336

 Asp. Tox. 1
 H304

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Xn; R20 Xn; R65 R10

Full text of R-phrases: see section 16

Classification (GHS-US)

Flam. Liq. 3	H226
Acute Tox. 4 (Inhalation:dust,mist)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 3	H336
Asp. Tox. 1	H304

Adverse physicochemical, human health and environmental effects

No additional information available

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Label elements

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

Hazard pictograms (CLP)







GHS02

Signal word (CLP) : Danger

Hazardous ingredients : N-NONANE UNLABELED

: H226 - Flammable liquid and vapor Hazard statements (CLP)

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

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, lighting, ventilating equipment

P261 - Avoid breathing dust, fume, gas, mist, spray, vapors P264 - Wash Both hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective clothing, protective gloves

GHS-US labeling

Signal word (GHS-US)

Hazard pictograms (GHS-US)







: Danger

Hazard statements (GHS-US) : H226 - Flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation H319 - Causes serious eve irritation

H332 - Harmful if inhaled

H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking

P233 - Keep container tightly closed

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, lighting, ventilating equipment

P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge P261 - Avoid breathing dust, fume, gas, mist, spray, vapors P264 - Wash Both hands thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective clothing, protective gloves

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302+P352 - IF ON SKIN: Wash with plenty of soap and water

P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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/doctor/physician if you feel unwell P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

P331 - If swallowed, do NOT induce vomiting

P332+P313 - If skin irritation occurs: Get medical advice/attention P337+P313 - If eye irritation persists: Get medical advice/attention P362 - Take off contaminated clothing and wash before reuse

P370+P378 - In case of fire: Use Carbon dioxide., Dry chemical., Alcohol resistant foam., Water

spray for extinction

P403+P233 - Store in a well-ventilated place. Keep container tightly closed

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P403+P235 - Store in a well-ventilated place. Keep cool

P405 - Store locked up

P501 - Dispose of contents/container to Comply with applicable regulations.

Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

Not applicable

3.2. **Mixtures**

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NONANE UNLABELED	(CAS No)111-84-2 (Unlabeled) (EC no)203-913-4	99.986	R10 Xn; R20 Xn; R65 R67
2,4'-DDT UNLABELED (97% CHEMICAL PURITY)	(CAS No)789-02-6 (EC no)212-332-5	0.014	Carc.Cat.3; R40 T; R25 T; R48/25 N; R50/53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NONANE UNLABELED	(CAS No)111-84-2 (Unlabeled) (EC no)203-913-4	99.986	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304
2,4'-DDT UNLABELED (97% CHEMICAL PURITY)	(CAS No)789-02-6 (EC no)212-332-5	0.014	Acute Tox. 3 (Oral), H301 Carc. 2, H351 STOT RE 1, H372 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410

Name	Product identifier	%	Classification (GHS-US)
N-NONANE UNLABELED	(CAS No)111-84-2 (Unlabeled)	99.986	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H336 Asp. Tox. 1, H304

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

SECTION 4: First aid measures

Description of first aid measures

First-aid measures after inhalation Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON

CENTER/doctor/physician if you feel unwell.

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash First-aid measures after skin contact

with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation

occurs: Get medical advice/attention. Specific treatment (see ... on this label).

: Immediately call a POISON CENTER or doctor/physician. First-aid measures after ingestion

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if

inhaled. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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

: For small fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

5.2. Special hazards arising from the substance or mixture

Fire hazard : 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 : Use water spray to cool unopened containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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 naked lights. No smoking.

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate

ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

Protective equipment : Avoid breathing dust, mist or spray. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain spillage, then collect with non-combustible absorbent material. Disposal should be in

accordance with applicable Federal, State and local regulations.

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

: Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling

: In order to avoid inhalation of mist/vapor, all spraying must be done wearing adequate respirator. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-

sparking tools. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Wash ... 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 electrical/ventilating/lighting/...

equipment.

Storage conditions : Store at room temperature away from light and moisture. Keep container tightly closed.

Incompatible materials : Heat sources

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

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Italy - Portugal- USA ACGIH ACGIH TWA (ppm) 200.000000000 ppm Central Nervous System impairment.

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

DNEL/DMEL (Workers)

Acute - systemic effects, dermal >= mg/kg bodyweight/day

8.2. Exposure controls

Personal protective equipment : Protective clothing. Protective goggles. Self-contained breathing apparatus. Gloves.



Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is

recommended. Wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

Physical state : Liquid

Appearance : Liquid.

: No data available. Color Odor : No data available Odor threshold : No data available : No data available рΗ Relative evaporation rate (butyl acetate=1) : No data available : -53 °C (- 63 °F) - lit Melting point Freezing point : No data available : 151 °C (304 °F) - lit **Boiling point**

Flash point : 31.0 °C (87.8 °F) - closed cup

Self ignition temperature : 205 °C (401 °F)

Decomposition temperature : No data available

Flammability (solid, gas) : Flammable liquid and vapor

Vapor pressure : 12.4 hPa (9.3 mmHg) at 37.7 °C (99.9 °F)

Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : Water: 0 %
Log Pow : 5.65

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
Explosive limits : 0.87 - 2.9 % (V)

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

No additional information available

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10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled.

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

ATE (dust, mist) 1.500 mg/l/4h

N-NONANE UNLA	BELED (111-84-2	(Unlabeled))

 LC50 inhalation rat (ppm)
 3200 ppm/4h

 ATE (dust, mist)
 1.500 mg/l/4h

2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)

ATE (oral) 100.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.

Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

Specific target organ toxicity (repeated

exposure)

: Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

Potential Adverse human health effects and

symptoms

: Harmful if inhaled.

Symptoms/injuries after inhalation : Danger of serious damage to health by prolonged exposure through inhalation. Harmful if

inhaled. May cause drowsiness or dizziness.

Symptoms/injuries after skin contact : Causes skin irritation.

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1. Toxicity

2,4'-DDT UNLABELED	197% CHEMICAL	DIIDITV	(780_02_6)
2,4 DDI UNLADELED	(31 /0 CHILINICAL	1 OK111,	(103-02-0)

LC50 fish 1 0.03 mg/l Other fish - 24 h

12.2. Persistence and degradability

N-NONANE UNLABELED (111-84-2 (Unlabeled))

Persistence and degradability Not available.

2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)

Persistence and degradability Not available.

2.3. Bioaccumulative potential

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

Log Pow 5.65

N-NONANE UNLABELED (111-84-2 (Unlabeled))

Log Pow 5.65

Bioaccumulative potential Indication of bioaccumulation.

2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)

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Bioconcentration factor (BCF REACH) 37000 Pimephales promelas (fathead minnow) - 32 d

12.4. Mobility in soil

N-NONANE UNLABELED (111-84-2 (Unlabeled))

Ecology - soil Not available.

2,4'-DDT UNLABELED (97% CHEMICAL PURITY) (789-02-6)

Ecology - soil Not available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of

contents/container to ...

Additional information : Handle empty containers with care because residual vapors are flammable.

Ecology - waste materials : Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.(DOT) : 1920 DOT NA no. UN1920

14.2. UN proper shipping name

DOT Proper Shipping Name : Nonanes

Department of Transportation (DOT) Hazard

Classes

: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : B1 - If the material ha

B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.

IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). 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, except for UN2672 (also see Special Provision IP8 in Table 2 for IN2672)

T2 - 1.5 178.274(d)(2) Normal...... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

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Overland transport

: 30 Hazard identification number (Kemler No.)

Orange plates

30 1920

Tunnel restriction code : D/E Limited quantities (ADR) 5L : 3Y Excepted quantities (ADR) : E1

Transport by sea

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel.

MFAG-No : 128

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L

CFR 175.75)

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

2,4'-DDT (97% CHEMICAL PURITY) UNLABELE		D 100 UG/ML IN NONANE	
	0.4.0.4.0.4.0.4.4.0.4.0.4.0.4.0.4.0.4.0	Lange - Parta /a and - Nica - 1th Inc.	

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard Delayed (chronic) health hazard

N-NONANE UNLABELED (111-84-2 (Unlabeled))

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

15.2. International regulations

CANADA

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE

Not listed on the Canadian DSL (Domestic Substances List) inventory

15.2.1. **National regulations**

No additional information available

15.3. US State regulations

2,4'-DDT (97% CHEMICAL PURITY) UNLABELED 100 UG/ML IN NONANE()

U.S. - Pennsylvania - RTK (Right to Know) List State or local regulations

U.S. - New Jersey - Right to Know Hazardous Substance List

WARNING! This product contains a chemical known by the state of California to cause birth defects or other reproductive harm.

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N-NONANE UNLABELED (111-84-2 (Unlabeled))

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

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

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

ext of K-, n- and con-philases	
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 3	Flammable liquids Category 3
Skin Irrit. 2	skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapor
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
R10	Flammable
R20	Harmful by inhalation
R25	Toxic if swallowed
R40	Limited evidence of a carcinogenic effect
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
N	Dangerous for the environment
Т	Toxic
Xn	Harmful
	I

CIL Mixture 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

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