

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: 07/04/2011 Revision date: 08/05/2017 Supersedes: 10/03/2015 Version: 4.0

DLM-3098

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

Product identifier

: Substance Product form

Substance name : N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%)

EC No : 201-663-0 (Unlabeled) CAS No : 86-30-6 (Unlabeled)

Product code : DLM-3098 Formula (C6H2D3)2NNO

Synonyms : Diphenylnitrosamine / Diphenylnitrosoamine / N-Nitroso-N-phenylaniline

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

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

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

Classification of the substance or mixture

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

Acute Tox. 4 (Oral) H302 Aquatic Chronic 2 H411

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

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

Xn: R22 N; R51/53

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 4 (Oral) H302 Aquatic Acute 2 H401 Aquatic Chronic 2 H411

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Bladder.

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2.2. Label elements

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

Hazard pictograms (CLP)





Signal word (CLP) : Warning

Hazard statements (CLP) : H302 - Harmful if swallowed

H411 - Toxic to aquatic life with long lasting effectsP264 - Wash Both hands thoroughly after handling

Precautionary statements (CLP) : P264 - Wash Both hands thoroughly after handling P270 - Do not eat, drink or smoke when using this product

P273 - Avoid release to the environment

P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell

P330 - Rinse mouth P391 - Collect spillage

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

GHS-US labeling

Hazard pictograms (GHS-US)





GHS07

' GHS

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H302 - Harmful if swallowed

H411 - Toxic to aquatic life with long lasting effects
P264 - Wash Both hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product

P273 - Avoid release to the environment

P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell

P330 - Rinse mouth P391 - Collect spillage

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

2.3. Other hazards

No additional information available

Precautionary statements (GHS-US)

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%)	(CAS No) 86-30-6 (Unlabeled) (EC No) 201-663-0 (Unlabeled)	100	Xn; R22 N; R51/53
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%)	(CAS No) 86-30-6 (Unlabeled) (EC No) 201-663-0 (Unlabeled)	100	Acute Tox. 4 (Oral), H302 Aquatic Chronic 2, H411

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

Name	Product identifier	%	GHS-US classification
N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (Main constituent)	(CAS No) 86-30-6 (Unlabeled)	100	Acute Tox. 4 (Oral), H302 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

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SECTION 4: First aid measures

Description of first aid measures

: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area. First-aid measures general

When symptoms occur: go into open air and ventilate suspected area. If not breathing, give First-aid measures after inhalation

artificial respiration. Get medical advice/attention.

First-aid measures after skin contact Gently wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact Rinse cautiously with water for several minutes.

First-aid measures after ingestion Rinse mouth out with water. Never give anything by mouth to an unconscious person. Get

medical advice/attention.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May be harmful if inhaled.

Symptoms/injuries after skin contact May be harmful in contact with skin.

Symptoms/injuries after eye contact May cause eye irritation. Symptoms/injuries after ingestion : Harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media : Water spray. Alcohol resistant foam. Dry chemical. Carbon dioxide.

Special hazards arising from the substance or mixture 5.2.

Reactivity : Not available.

5.3. **Advice for firefighters**

Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing

apparatus. Do not enter fire area without proper protective equipment, including respiratory

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

: Use personal protective equipment as required. Avoid dust formation. Avoid breathing vapors, **Emergency procedures**

mist, gas. Ensure adequate air ventilation. Avoid breathing dust.

6.1.2. For emergency responders

No additional information available

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.

Methods and material for containment and cleaning up

: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, For containment

closed containers for disposal.

Reference to other sections

No additional information available

SECTION 7: Handling and storage

Precautions for safe handling

Precautions for safe handling : Use care during processing to minimize generation of dust. May form combustible dust

concentrations in air. Avoid contact with skin and eyes. Avoid dust formation. Provide adequate ventilation to minimize dust and/or vapor concentrations.

Handle in accordance with good industrial hygiene and safety practice. Wash hands before Hygiene measures

breaks and at the end of workday.

Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in freezer (-80°C). Protect from light, air and moisture.

Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

Control parameters

No additional information available

Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or

smoking and when leaving work.

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









Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection Wear suitable protective clothing and gloves.

Eye protection Wear eye protection. Chemical goggles or face shield with safety glasses.

Skin and body protection Wear suitable protective clothing, gloves and eye/face protection.

In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator. Respiratory protection

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state : Solid : Solid. **Appearance**

204.26 g/mol (Labeled) Molecular mass Color Orange to Brown.

No data available. Odor Odor threshold : No data available рΗ : No data available Relative evaporation rate (butyl acetate=1) : No data available

: 65 - 66 °C (149 - 151 °F) Melting point

: No data available Freezing point

: 268 °C Boiling point Flash point

: No data available Auto-ignition temperature Decomposition temperature : No data available Flammability (solid, gas) : No data available No data available Vapor pressure : No data available Relative vapor density at 20 °C

: 1.23 g/cm3 at 20 °C (68 °F) Relative density

Soluble in methanol. Solubility

Water: 0 %

Log Pow : 3.13

Log Kow No data available Viscosity, kinematic No data available Viscosity, dynamic : No data available : No data available Explosive properties Oxidizing properties : No data available **Explosion limits** : No data available

Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not available.

Chemical stability

Stable if stored under recommended conditions.

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Possibility of hazardous reactions

No additional information available

Conditions to avoid

Not available.

Incompatible materials 10.5.

Strong oxidizing agents.

Hazardous decomposition products 10.6.

Carbon oxides (CO, CO2). Nitrogen oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (86-30-6 (Unlabeled))		
LD50 oral rat	1825 mg/kg Remarks: Cyanosis	
LD50 dermal rabbit	> 7940 mg/kg Remarks: Behavioral: Food intake (animal). Behavioral: Change in motor activity (specific assay).	
ATE CLP (oral)	1825.000 mg/kg body weight	

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Eyes. rabbit. Result: Mild eye irritation. 24 Hours

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity Based on animal experimentation, it is proved that product has shown mutagenic effects

Carcinogenicity Carcinogenicity Not classified (Based on available data, the classification criteria are not met) Carcinogenicity - Rat - Oral Tumorigenic: Carcinogenic by RTECS criteria. Kidney, Ureter,

Bladder: Tumors.

Carcinogenicity - Mouse - Skin Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Bronchiogenic carcinoma. Tumorigenic: Increased evidence of

tumors in susceptible strains. Carcinogenicity - Rat - Oral Tumorigenic: Carcinogenic by RTECS criteria. Kidney, Ureter,

Bladder: Tumors. Skin and Appendages: Other: Tumors.

Carcinogenicity - Rat - Interperitoneal Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Endocrine: Tumors.

Carcinogenicity - Mouse - Oral Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Kidney, Ureter, Bladder: Tumors.

Based on available data, the classification criteria are not met Nitrosamines are suspected of causing cancers of the lung, nasal sinuses, brain, esophagus, stomach, liver, bladder and

kidney.

Reproductive toxicity : Not available

Specific target organ toxicity - single exposure : Not classified

No data available

Specific target organ toxicity - repeated

exposure

: Not classified

No data available

Aspiration hazard Potential Adverse human health effects and

symptoms

: Not classified 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.

IARC group

Symptoms/injuries after inhalation : May be harmful if inhaled.

Symptoms/injuries after skin contact : May be harmful in contact with skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms/injuries after ingestion : Harmful if swallowed.

SECTION 12: Ecological information

12.1. **Toxicity**

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6	, 96%) (86-30-6 (Unlabeled))
LC50 fish 1	5.8 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	7.8 mg/l Daphnia magna (Water flea) - 48 h

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12.2. Persistence and degradability

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6	, 96%) (86-30-6 (Unlabeled))
Persistence and degradability	Not available.

12.3. Bioaccumulative potential

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (86-30-6 (Unlabeled))	
BCF fish 1	0.00921 mg/l Lepomis macrochirus (Bluegill) - 14 d
Bioconcentration factor (BCF REACH)	217
Log Pow	3.13

12.4. Mobility in soil

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (86-30-6 (Unlabeled))	
Ecology - soil	Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

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

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) : 3077 DOT NA no. UN3077

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Environmentally hazardous substances, solid, n.o.s.

Class (DOT) : 9 - Class 9 - Miscellaneous hazardous material 49 CFR 173.140

Hazard labels (DOT) : 9 - Class 9 (Miscellaneous dangerous materials)



DOT Symbols : G - Identifies PSN requiring a technical name

Packing group (DOT) : III - Minor Danger

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DOT Special Provisions (49 CFR 172.102)

: 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.

146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.

335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s, UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.

A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg:

- a. Metal: 11A, 11B, 11N, 21A, 21B and 21N
- b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2
- c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2
- d. Fiberboard: 11G
- e. Wooden: 11C, 11D and 11F (with inner liners)

f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner). B54 - Open-top, sift-proof rail cars are also authorized.

IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21H 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.

N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle. T1 - 1.5 178.274(d)(2) Normal...... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 155 DOT Packaging Non Bulk (49 CFR 173.xxx) : 213 DOT Packaging Bulk (49 CFR 173.xxx) : 240 DOT RQ : 100 lbs Marine pollutant



Additional information

Emergency Response Guide (ERG) Number : 171

Other information : No supplementary information available.

Special transport precautions : IMDG/IATA - Not dangerous goods.

Overland transport

Packing group (ADR) : 111

Class (ADR) : 9 - Miscellaneous dangerous substances and articles

Hazard identification number (Kemler No.) : 90 Classification code (ADR) : M7

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Hazard labels (ADR)

: 9 - Miscellaneous dangerous substances and articles



Orange plates

Tunnel restriction code (ADR) : E Limited quantities (ADR) 5kg **EAC** : 2Z 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 : 171

Air transport

DOT Quantity Limitations Passenger aircraft/rail : No limit

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : No limit

CFR 175.75)

Civil Aeronautics Law

: Miscellaneous dangerous substances & articles

14.4. **Environmental hazards**

Dangerous for the environment



Other information : No supplementary information available.

Special precautions for user

Special transport precautions : IMDG/IATA - Not dangerous goods.

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

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (86-30-6 (Unlabeled))	
Subject to reporting requirements of United States	s SARA Section 313
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. International regulations

CANADA

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%) (86-30-6 (Unlabeled))

Listed on the Canadian DSL (Domestic Substances List)

National regulations 15.2.1.

No additional information available

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15.3. US State regulations

N-NITROSODIPHENYLAMINE (2,2',4,4',6,6'-D6, 96%)(86-30-6 (Unlabeled))	
U.S California - Proposition 65 - Carcinogens List	Yes
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 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 (Oral)	Acute toxicity (oral) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
H302	Harmful if swallowed
H411	Toxic to aquatic life with long lasting effects
R22	Harmful if swallowed
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
Xn	Harmful

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer

no hazard beyond that of ordinary combustible materials.

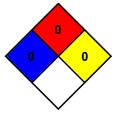
: 0 - Materials that will not burn under typical dire conditions, NFPA fire hazard

including intrinsically noncombustible materials such as

concrete, stone, and sand.

: 0 - Material that in themselves are normally stable, even NFPA reactivity

under fire conditions.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard Physical : 0 Minimal Hazard

CIL Multi-Solvent 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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