

SAFETY DATA SHEET

According to the Hazard Communication Standard, 29 CFR 1910.1200

SYNOLAN 1000 ISO 460

SDS#: 083426

Section 1. Identification

GHS product identifier : SYNOLAN 1000 ISO 460

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

Identified uses

Lubricants

Supplier's details : TotalEnergies Marketing USA, Inc.

1201 Louisiana St. Suite 1800

Houston, TX 77002 Phone: 713-483-5000

ProductSafety@totalenergies.com

Emergency telephone number (with hours of operation)

1-866-928-0789 (For Emergencies, call CARECHEM 24/7 Domestic) 1-215-207-0061 (For Emergencies, call CARECHEM 24/7 International)

Section 2. Hazards identification

OSHA/HCS status

: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : TOXIC TO REPRODUCTION - Category 2

GHS label elements

Hazard pictograms



Signal word

Hazard statements

Suspected of damaging fertility or the unborn child.

Precautionary statements

Prevention

: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face

protection.

Response

: IF exposed or concerned: Get medical advice or attention.

Storage

: Store locked up.

Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise

classified

: None known.

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Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	% (w/w)	CAS number
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	≤3	68411-46-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immed

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Inhalation

: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact: No known significant effects or critical hazards.Inhalation: No known significant effects or critical hazards.Skin contact: No known significant effects or critical hazards.Ingestion: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

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Skin contact : Adverse symptoms may include the following:

> reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

> reduced fetal weight increase in fetal deaths skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may

: Use dry chemical, CO₂, water spray (fog) or foam.

be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

: Do not use water jet.

Unsuitable extinguishing media

Specific hazards arising from the chemical

Hazardous thermal decomposition products : In a fire or if heated, a pressure increase will occur and the container may burst.

: carbon monoxide carbon dioxide nitrogen oxides phosphorus oxides sulfur oxides Hydrogen sulfide Mercaptans

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders: If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

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Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Avoid exposure obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

including any incompatibilities

Conditions for safe storage, : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	None.

Biological exposure indices

No exposure indices known.

Advisory OEL : No known significant effects or critical hazards.

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Appropriate engineering controls

: If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

Skin protection Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Hydrocarbon-proof gloves

Fluorinated rubber nitrile rubber

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. In case of insufficient ventilation, wear suitable respiratory equipment. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature (20°C / 68°F) and pressure (1013 hPa) unless otherwise indicated

Appearance

Physical state : Liquid.
Color : Amber.

Odor : Slight Sulphurous
Odor threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Pour point : -29°C (-20.2°F)

Boiling point : Not available.

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Flash point : Open cup: 241°C (465.8°F) [Cleveland Open Cup (COC)]

: Not available. **Evaporation rate** : Not available. Flammability (solid, gas) Lower and upper explosive : Not available.

(flammable) limits

Vapor pressure : Not available. Vapor density : Not available.

Relative density : 0.875

: 0.875 g/cm³ [15°C] [ASTM D 4052] **Density**

Solubility(ies)

Media Result water Not soluble

Miscible with water : No.

Partition coefficient: n-

octanol/water

: Not applicable.

: Not available. **Auto-ignition temperature Decomposition temperature** : Not available.

: Kinematic (40°C (104°F)): 480 mm²/s (480 cSt) [ASTM D 445] **Viscosity**

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Stable under recommended storage and handling conditions (see Section 7).

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition

products

: carbon monoxide carbon dioxide nitrogen oxides phosphorus oxides sulfur oxides Hydrogen sulfide Mercaptans

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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/substance	Result	Species	Dose	Exposure	Test
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-	OECD 402
	LD50 Oral	Rat - Male, Female	>5000 mg/kg	-	OECD 401

Conclusion/Summary

: Based on available data, the classification criteria are not met.

Irritation/Corrosion

Product/substance	Result	Species	Score	Exposure	Test
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Eyes - Cornea opacity	Rabbit	0	-	OECD 405
	Skin - Edema	Rabbit	0	4 hours	OECD 404

Skin : Based on available data, the classification criteria are not met.

Eyes : Based on available data, the classification criteria are not met.

Respiratory : Based on available data, the classification criteria are not met.

Sensitization

Product/substance	Route of exposure	Species	Result
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	skin	Guinea pig	Not sensitizing

Skin : Based on available data, the classification criteria are not met.

Respiratory: Based on available data, the classification criteria are not met.

Mutagenicity

Product/substance	Test	Experiment	Result
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	OECD 487	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 478	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 471	Subject: Bacteria	Negative

Conclusion/Summary

: Based on available data, the classification criteria are not met.

Carcinogenicity

Conclusion/Summary Reproductive toxicity

: Based on available data, the classification criteria are not met.

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Product/substance	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	-	Negative	Negative	Rat - Male, Female	Oral	-

Conclusion/Summary: Based on available data, the classification criteria are met.

Teratogenicity

Product/substance	Result	Species	Dose	Exposure
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Negative - Oral		150 mg/kg NOAEL	-

Conclusion/Summary: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Conclusion/Summary: Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure)

Conclusion/Summary: Based on available data, the classification criteria are not met.

Aspiration hazard

Conclusion/Summary: Based on available data, the classification criteria are not met.

Information on the likely

routes of exposure

: Not available.

Potential acute health effects

Eye contact
 Inhalation
 No known significant effects or critical hazards.
 Skin contact
 No known significant effects or critical hazards.
 Ingestion
 No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Skin contact : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Ingestion : Adverse symptoms may include the following:

reduced fetal weight increase in fetal deaths skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate

effects

: Not available.

Potential delayed effects

: Not available.

Long term exposure

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Potential immediate

effects

: Not available.

Potential delayed effects

: Not available.

Potential chronic health effects

Product/substance	Result	Species	Dose	Exposure
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene		Rat - Male, Female	100 mg/kg	-

General : No known significant effects or critical hazards.
 Carcinogenicity : No known significant effects or critical hazards.
 Mutagenicity : No known significant effects or critical hazards.
 Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/substance	Oral (mg/ kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	(vapors)	Inhalation (dusts and mists) (mg/ I)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	N/A	2500	N/A	N/A	N/A

Other information

Not available.

Section 12. Ecological information

Toxicity

Product/substance	Result	Species	Exposure	Test
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours	OECD 201
, , , , , , , , , , , , , , , , , , ,	Acute EC50 51 mg/l	Crustaceans - <i>Daphnia</i> magna	48 hours	OECD 202
	Acute LC50 >100 mg/l Fresh water	Fish - Danio rerio	96 hours	OECD 203
	Chronic NOEC 10 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours	OECD 201
	Chronic NOEL 1.69 mg/l Fresh water	Crustaceans - Daphnia magna	21 days	OECD 211

Persistence and degradability

Product/substance	Test	Result	Dose	Inoculum
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	OECD 301B	0 % - Not readily - 28 days	-	Activated sludge

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Product/substance	Aquatic half-life	Photolysis	Biodegradability
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	-	-	Not readily

Bioaccumulative potential

Product/substance	LogK _{ow}	BCF	Potential
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	6.7	1730	High

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Mobility in soil

: Given its physical and chemical characteristics, the product generally shows low soil mobility. The product is insoluble and floats on water. Loss by evaporation is limited

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	DOT Classification	IMDG	ICAO/IATA
UN/ID No	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

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Special precautions for user : Transport within user's premises: always transport in closed containers that are

upright and secure. Ensure that persons transporting the product know what to do in the

event of an accident or spillage.

Transport in bulk according : Not available.

to IMO instruments

Section 15. Regulatory information

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112

(b) Hazardous Air **Pollutants (HAPs)** : Not listed

Clean Air Act Section 602

Class I Substances

: Not listed

Clean Air Act Section 602

: Not listed

Class II Substances

DEA List I Chemicals

: Not listed

(Precursor Chemicals)

DEA List II Chemicals

: Not listed

(Essential Chemicals)

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : TOXIC TO REPRODUCTION - Category 2

Composition/information on ingredients

Name	%	Classification
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	≤3	TOXIC TO REPRODUCTION - Category 2

State regulations

Massachusetts : None of the components are listed. **New York** : None of the components are listed. **New Jersey** : None of the components are listed. **Pennsylvania** : None of the components are listed.

California Prop. 65

To the best of our knowledge, this product does not contain any substances known to the State of California to cause cancer, developmental and/or reproductive harm

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

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Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia inventory (AIIC) : Not determined.

Canada inventory (DSL/NDSL) : Not determined.

China inventory (IECSC) : Not determined.

Europe inventory (EC) : Not determined.

Japan inventory : Japan inventory (CSCL): Not determined.

Japan inventory (ISHL): Not determined.

New Zealand Inventory of Chemicals (NZIoC) : Not determined.

Philippines inventory (PICCS) : Not determined.

Korea inventory (KECI) : Not determined.

Taiwan Chemical Substances Inventory (TCSI) : Not determined.

Thailand inventory : Not determined.

Turkey inventory : Not determined.

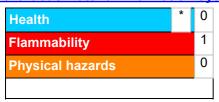
United States inventory (TSCA 8b) : All components are listed or exempted.

Vietnam inventory : Not determined.

The information stated in this section relates solely to the conformity of the chemical product with the countries Inventories. The information used to confirm the inventory status of this product may be based on additional data to the chemical composition shown in Section 3. Other regulations may apply for importation or marketing authorizations.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Procedure used to derive the classification

Classification	Justification
TOXIC TO REPRODUCTION - Category 2	Calculation method

History

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previous revision date : No previous validation

Version : 1

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available SGG = Segregation Group UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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