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Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 13 Jun 2024

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

n-Nonane

1.1. Catalog No.:

682138

1.2. Relevant identified uses of the substance or mixture

Identified uses: Laboratory chemical
R&D

1.3. Uses advised against:

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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

· 2.1 Classification of the substance or mixture · Classification according to Regulation (EC) No 1272/2008
Acute Tox. 4 H332 Harmful if inhaled. Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2 H319 Causes serious eye irritation. STOT SE 3 H336 May cause drowsiness or dizziness.
Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

2.2. Label elements

2.2.1. Pictogram

2.2.2.

· 2.2 Label elements · Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation. · Hazard pictograms · Signal word Danger · Hazard statements H226 Flammable liquid and vapour. H332 Harmful if inhaled. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H304 May be fatal if swallowed and enters airways. H413 May cause long lasting harmful effects to aquatic life. · Precautionary statements P280 Wear protective gloves/protective clothing/eye protection/face protection.

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P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P405 Store locked up. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. · 2.3 Other hazards · Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

· 3.1 Chemical characterisation: Substances · CAS No. Description 111-84-2 Nonane · Identification number(s) None · EC number: 203-913-4 · RTECS: RA6115000

3.1.1. Formula

C9H20

3.1.2. Molecular Weight (g/mol)

128.26

3.1.3. CAS-No.

111-84-2

4. FIRST AID MEASURES

· 4.1 Description of first aid measures · General information: Immediately remove any clothing soiled by the product. Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended. · After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient in recovery position for transport. Seek medical treatment. · After skin contact: Immediately wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor. · After eye contact: Rinse opened eye for several minutes under running water. If symptoms

persist, consult a doctor. · After swallowing: Rinse mouth. Do not induce vomiting. Call for a doctor immediately. · 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available. · 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available

5. FIRE-FIGHTING MEASURES

· 5.1 Extinguishing media · Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam. · For safety reasons unsuitable extinguishing agents: Water with full jet · 5.2 Special hazards arising from the substance or mixture Formation of toxic gases is possible during heating or in case of fire. · 5.3 Advice for firefighters · Protective equipment: Mouth respiratory protective device. Wear self-contained respiratory protective device.

6. ACCIDENTAL RELEASE MEASURES

· 6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. · 6.2 Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water. · 6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13. Ensure adequate ventilation. · 6.4 Reference to other sections See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7. HANDLING AND STORAGE

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

· Additional information about design of technical facilities: No further data; see item 7.
· 8.1 Control parameters · Ingredients with limit values that require monitoring at the workplace: Not required. · Additional information: Lists used were valid at the time of SDS preparation.
· 8.2 Exposure controls · Personal protective equipment: · General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. · Respiratory protection: In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced · Protection of hands: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the

related standard EN374 Material of gloves Nitrile rubber, NBR · Penetration time of glove material The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed. · Eye protection:

9. PHYSICAL AND CHEMICAL PROPERTIES

· 9.1 Information on basic physical and chemical properties · General Information · Appearance: Form: Liquid Colour: Colourless · Odour: Petrol-like · Odour threshold: Not determined.
· pH-value: Not determined.
· Change in condition Melting point/freezing point: -54 °C Initial boiling point and boiling range: 151 °C
· Flash point: 31 °C
· Flammability (solid, gas): Not determined.
· Ignition temperature: 205 °C · Decomposition temperature: Not determined.
· Auto-ignition temperature: Not determined.
· Explosive properties: Product is not explosive. However, formation of explosive air/ vapour mixtures is possible.
· Explosion limits: Lower: 0.7 Vol % Upper: 5.6 Vol %
· Vapour pressure: Not determined.
· Density at 20 °C: 0.71793 g/cm³ · Relative density Not determined. · Vapour density Not determined. · Evaporation rate Not determined.
· Solubility in / Miscibility with water at 25 °C: 0.00012 g/l
· Partition coefficient: n-octanol/water: 5.65 Log P
· Viscosity: Dynamic: Not determined. Kinematic: Not determined. · 9.2 Other information No further relevant information available

10. STABILITY AND REACTIVITY

10.1 Reactivity Stable under normal conditions. · 10.2 Chemical stability Stable under normal conditions. · Thermal decomposition / conditions to be avoided: Formation of toxic gases is possible during heating or in case of fire. · 10.3 Possibility of hazardous reactions May form flammable/explosive vapour-air mixture. · 10.4 Conditions to avoid Sources of ignition Heat. · 10.5 Incompatible materials: Strong oxidizing agents. · 10.6 Hazardous decomposition products: Formation of toxic gases is possible during heating or in case of fire.

11. TOXICOLOGICAL INFORMATION

· 11.1 Information on toxicological effects · Acute toxicity Harmful if inhaled. · LD/LC50 values relevant for classification: Inhalative LC50/4 h 16.8 mg/l (rat) · Primary irritant effect: · Skin corrosion/irritation Causes skin irritation. · Serious eye damage/irritation Causes serious eye irritation. · Respiratory or skin sensitisation Based on available data, the classification criteria are not met. · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction) · Germ cell mutagenicity Based on available data, the classification criteria are not met. · Carcinogenicity Based on available data, the classification criteria are not met. · Reproductive toxicity Based on available data, the classification criteria are not met. · STOT-single exposure May cause drowsiness or dizziness. · STOT-repeated exposure Based on available data, the classification criteria are not met. · Aspiration hazard May be fatal if swallowed and enters airways.

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12. ECOLOGICAL INFORMATION

· 12.1 Toxicity · Aquatic toxicity: No further relevant information available. · 12.2 Persistence and degradability No further relevant information available. · 12.3 Bioaccumulative potential No further relevant information available. · 12.4 Mobility in soil No further relevant information available. · Additional ecological information: · General notes: Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water Do not allow undiluted product to reach ground water, water course or sewage system. · 12.5 Results of PBT and vPvB assessment · PBT: Not applicable. · vPvB: Not applicable. · 12.6 Other adverse effects No further relevant information available.

13. DISPOSAL CONSIDERATIONS

· 13.1 Waste treatment methods · Recommendation Must not be disposed of together with household garbage. Do not allow product to reach sewage system. · European waste catalogue Waste disposal key numbers from EWC have to be assigned depending on origin and processing · Uncleaned packaging: · Recommendation: Dispose of in accordance with national regulations

14. TRANSPORT INFORMATION

· 14.1 UN-Number · ADR, IMDG, IATA UN1920 · ADR 1920 NONANES · IMDG, IATA NONANES
· 14.3 Transport hazard class(es)
· ADR, IMDG, IATA
· Class 3 Flammable liquids. · Label 3
· 14.4 Packing group · ADR, IMDG, IATA III
· 14.5 Environmental hazards: Not applicable.
· 14.6 Special precautions for user Warning: Flammable liquids. · Danger code (Kemler): 30 · EMS Number: F-E,S-E · Stowage Category A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.
· Transport/Additional information:
· ADR · Limited quantities (LQ) 5L · Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml · Transport category 3 · Tunnel restriction code D/E
· UN "Model Regulation": UN 1920 NONANES, 3, III

15. REGULATORY INFORMATION

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· Directive 2012/18/EU · Named dangerous substances - ANNEX I Substance is not listed. · Seveso category P5c FLAMMABLE LIQUIDS · Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t · Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 40 · 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!