

Safety Data Sheet

2-ethyl-hexylamine

Version 2.1

Issue Date: 18-05-2023

SDS Number: A-EU-0003

According to Regulation (EC) No 1907/2006, Annex II.

Amended by COMMISSION REGULATION (EU) 2020/878.

According to REGULATION (EC) No 1272/2008

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

1.1 Product identifier:

Identification on the label/Trade name: 2-ethyl-hexylamine

Additional identification: Nanoform is NOT covered by this SDS.

Identification of the product: CAS# 104-75-6; EC# 203-233-8

Index Number: Not available

REACH registration No.: Not available

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

Identified uses:

2-ethyl-hexylamine is used as raw materials in blue dye and phthalocyanine dye.

PC 0: Other: use covers several product categories

PC 0: Other: charging and discharging

PC 0: Other: plastic, resins, rubber, epoxy-systems

PC 13: Fuels

PC 19: Intermediate

PC 21: Laboratory chemicals

PC 24: Lubricants, greases, release products

SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)

SU 9: Manufacture of fine chemicals

Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Manufacturer): MIT-IVY INDUSTRY CO.,LTD

Address: CHEMICAL INDUSTRY PARK, 69 GUOZHUANG ROAD, YUNLONG DISTRICT, XUZHOU CITY, JIANGSU PROVINCE, CHINA

Contact person(E-mail): INFO@MIT-IVY.COM

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1.4 Emergency telephone No.:

+86-13805212761

Available outside office hours? YES

2 Hazards Identification

2.1 Classification of the substance or mixture

According to REGULATION (EC) No 1272/2008, based on available data, the substance is classified as following:

REGULATION (EC) No 1272/2008

Hazard classes/Hazard categories	Hazard Codes
Flam. Liquid 3	H226
Acute Tox. 4	H302
Skin Corr. 1A	H314
Eye Damage 1	H318
Acute Tox. 2	H330

2.2 Label elements

Hazard Pictograms:



Signal Word(S): Danger

Hazard Statement: H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

Precautionary statement(s): P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P243 Take precautionary measures against static dis charge.

P260 Do not breathe dust/fume/ gas/mist/vapours/spray.

P264 Wash hands and clothes thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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.

P310 Immediately call a POISON CENTER or doctor/physician.

P370+P378 In case of fire: Use dry chemical, CO₂ or foam to extinguish.

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

P405 Store locked up.

P501 Dispose of contents/container to local regulations.

Supplemental Hazard information (EU) Not applicable.

2.3 Other hazards:

The substance is not PBT / vPvB.

The substance is not identified as having endocrine disrupting properties.

3 Composition/information on ingredients

3.1 *Substance/Mixture:* Substance

3.2 *Ingredient(s):*

<i>Chemical Name</i>	<i>CAS No.</i>	<i>EC No.</i>	<i>Concentration</i>	<i>Classification</i>	<i>Specific Concentration limit, M-factors, Acute Toxicity Estimates</i>
2-ethyl-hexylamine	104-75-6	203-233-8	≥99%	H226; H302; H314; H318; H330	N/A

4 First aid measures

4.1 *Description of first aid measures:* In all cases of doubt, or when symptoms persist, seek medical attention.

Inhalation : Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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. 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: Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eyes: Get medical attention immediately. 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. Chemical burns must be treated promptly by a physician.

Ingestion: Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. 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. Chemical burns must be treated promptly by a physician. 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.

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

Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage. Fatal if inhaled.

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

Basic aid, decontamination, symptomatic treatment.

5 Fire-Fighting measures

5.1 *Extinguishing media:*

Suitable extinguishing media: Water spray, dry powder, foam, carbon dioxide.

Unsuitable extinguishing media: Not available.

5.2 Special hazards arising from the substance or mixture

Incomplete combustion may form carbon monoxide. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes.

5.3 Advice for fire-fighters:

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

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel:

Keep away from heat, sparks and flame. Maintain good ventilation, use appropriate respiratory protective equipment. Avoid skin and eye contact. Use proper personal protective equipment as indicated in Section 8. Keep people away from and upwind of spill/leak.

For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if vapor is generated.

6.2 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). Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

6.3 Methods for Containment and Cleaning up:

MINOR SPILLS: Remove all ignition sources. Clean up all spills immediately.

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

MAJOR SPILLS: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. 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. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections:

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

7.1 Precautions for Safe handling:

Protective measures:

Put on appropriate personal protective equipment. 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. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical

(ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous.

7.2 Conditions for safe storage, including any incompatibilities:

Do not store near acids. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Keep in a dry, cool place. Keep away from Oxidizers. Recommended suitable container materials include plastic, stainless, and carbon steels.

Packaging materials

Recommended: Use original container.

7.3 Specific end use(s):

Not applicable.

8 Exposure control/personal protection

8.1 Control parameters:

Occupational exposure limits: Not available

Additional exposure limits under the conditions of use: Not available

DNEL/DMEL and PNEC-Values:

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	No hazard identified
Workers - Hazard via inhalation route	Systemic effects-Acute/short term exposure	High hazard (no threshold derived)
Workers - Hazard via inhalation route	Local effects-Long term exposure	DNEL=4.2 mg/m ³
Workers - Hazard via inhalation route	Local effects-Acute/short term exposure	High hazard (no threshold derived)
Workers - Hazard via dermal route	Systemic effects-Long term exposure	No hazard identified
Workers - Hazard via dermal route	Systemic effects-Acute/short term exposure	No hazard identified
Workers - Hazard via dermal route	Local effects-Long term exposure	High hazard (no threshold derived)
Workers - Hazard via dermal route	Local effects-Acute/short term exposure	High hazard (no threshold derived)
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	No hazard identified
General Population - Hazard via inhalation route	Systemic effects-Acute/short term exposure	No hazard identified
General Population - Hazard via inhalation route	Local effects-Long term exposure	No hazard identified
General Population - Hazard via inhalation route	Local effects-Acute/short term exposure	No hazard identified
General Population - Hazard via dermal route	Systemic effects-Long term exposure	No hazard identified
General Population - Hazard via dermal route	Systemic effects-Acute/short term exposure	No hazard identified
General Population - Hazard via dermal route	Local effects-Long term exposure	No hazard identified

route		
General Population – Hazard via dermal route	Local effects-Acute/short term exposure	No hazard identified
General Population – Hazard via oral route	Systemic effects-Long term exposure	No hazard identified
General Population – Hazard via oral route	Systemic effects-Acute/short term exposure	No hazard identified
Hazard for aquatic organisms	Freshwater	PNEC=0.002 mg/l
Hazard for aquatic organisms	Marine water	PNEC=0 mg/l
Hazard for aquatic organisms	STP	PNEC=6 mg/l
Hazard for aquatic organisms	Sediment (freshwater)	PNEC=1.78 mg/kg sediment dw
Hazard for aquatic organisms	Sediment (marine water)	PNEC=0.178 mg/kg sediment dw
Hazard for terrestrial organisms	Soil	PNEC=0.353 mg/kg soil dw
Hazard for predators	Secondary poisoning	No potential for bioaccumulation

8.2 Exposure controls:

Appropriate engineering controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection	Full face shield with goggles underneath. Chemical resistant goggles must be worn.
Skin protection-Hand protection	Butyl-rubber Nitrile rubber. Neoprene gloves. Polyvinyl Alcohol Gloves (PVA). Impervious gloves.
Skin protection-Body protection	Impervious clothing. Full rubber suit (rain gear). Rubber or plastic boots.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Combination filter, e.g. DIN 3181 ABEK if product forms vapours
Thermal hazards	Wear suitable protective clothing to prevent heat.

Environmental exposure controls:

Avoid discharge into the environment. According to local regulations, Federal and official regulations.

9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Color:	Colorless to yellowish transparent
Odour:	Ammonia-like
Odour threshold:	Not available
pH:	Not available

Melting point/range (°C):	<-70°C
Boiling point/range (°C) :	169.8°C at 1013.25 hPa
Flash point (°C) :	52.0 °C (closed cup)
Evaporation rate:	Not applicable
Flammability (solid, gas);	Flammable
Upper/lower flammability/explosive limits:	Not available
Vapor pressure:	1.6 hPa at 20°C
Vapor density:	Not applicable
Relative Density:	0.78 g/cm ³ at 20°C
Bulk density (kg/m ³) :	Not applicable
Water solubility (g/l) :	2.5 g/l at 20°C
n-Octanol/Water (log Po/w) :	2.82 at 20°C and pH=13
Auto-ignition temperature:	265°C at 1013.25hPa
Decomposition temperature:	Not available
Molecular weight:	129.25
Molecular formula:	C ₈ H ₁₉ N
Viscosity, dynamic (mPa s) :	1.12 mPa • s at 20°C
Explosive properties:	Non explosive
Oxidising properties:	Non-oxidising

9. 2 Other information

Fat solubility(solvent-oil to be specified) etc:	Not available
Surface tension:	Not surface active
Dissociation constant in water(pKa):	10.41 at 25 °C
Oxidation-reduction Potential:	Not available
Particle characteristics:	Not applicable

10 Stability and reactivity

10.1 Reactivity: The substance is stable under normal storage and handling conditions.

10.2 Chemical stability: The substance is stable under normal storage and handling conditions, not sensitive to light.

10.3 Possibility of hazardous reactions: Under normal conditions, not hazardous reactions will occur.

10.4 Conditions to avoid: Heat, flames and sparks.

10.5 Incompatible materials: Strong acids, oxidizing agents.

10.6 Hazardous decomposition products:

Possible thermal decomposition products: carbon monoxide, Carbon dioxide, nitrogen oxides.

11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity:

LD50(Oral, Rat):	316 mg/kg bw
LD50(Dermal, Rabbit):	600 mg/kg bw
LC50(Inhalation/4h, Rat):	<1.548 mg/l air

Skin corrosion/Irritation: Corrosive

Serious eye damage/irritation: Irreversible effects on the eye

Respiratory or Skin sensitization: Not sensitising

Germ cell mutagenicity: Negative

Carcinogenicity: No available

Reproductive toxicity: The NOAEL for reproductive and developmental toxicity was 100 mg/kg bw/day.

<i>STOT- single exposure:</i>	Not classified
<i>STOT-repeated exposure:</i>	Not classified
<i>Aspiration hazard:</i>	Fatal if inhaled

11.2 Information on other hazards:

<i>Endocrine disrupting properties:</i>	The substance is not identified as having endocrine disrupting properties.
<i>Other information:</i>	Not applicable

12 Ecological information**12.1 Toxicity:**

<i>Acute toxicity</i>		<i>Time</i>	<i>Species</i>	<i>Method</i>	<i>Evaluation</i>	<i>Remarks</i>
LC50	16 mg/l	48h	Fish	OECD 203	N/A	N/A
EC50	2.2 mg/l	24h	Daphnia	OECD 202	N/A	N/A
EC50	5 mg/l	72h	Algae	OECD 201	N/A	N/A

<i>Chronic (long-term) toxicity:</i>	<i>Value</i>
NOEC (Fish):	N/A
NOEC (Daphnia):	N/A
NOEC (Algae/aquatic plants):	3.4 mg/l

12.2 Persistence and degradability:

The substance is considered to be readily biodegradable.

12.3 Bioaccumulative potential:

BCF (aquatic species): 24.9 l/kg ww.

12.4 Mobility in soil:

Based on the pH-corrected log K_{oc} and the ready biodegradability of the substance significant long-term adsorption to solid soil phase is not expected.

12.5 Results of PBT and vPvB assessment:

The substance is not PBT / vPvB.

12.6 Endocrine disrupting properties:

The substance is not identified as having endocrine disrupting properties.

12.7 Other adverse effects:

No data available.

12.8 Additional information:

Not available.

13 Disposal considerations**13.1 Waste treatment methods**

Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

13.2 Waste from residues/unused products:

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

13.3 Contaminated packaging:

Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14 Transport information

	<i>Land transport (ADR/RID)</i>	<i>Inland waterways (ADN)</i>	<i>Sea transport (IMDG)</i>	<i>Air transport (ICAO/IATA)</i>
<i>UN-Number:</i>	UN 2276	UN 2276	UN 2276	UN 2276
<i>UN Proper shipping name:</i>	2-ETHYL-HEXYLAMINE			
<i>Transport hazard Class:</i>	3+8	3+8	3+8	3+8
<i>Packaging group:</i>	III	III	III	III
<i>Environmental hazards:</i>	No	No	No	No
<i>Special precautions for user:</i>	See section 2.2	See section 2.2	See section 2.2	See section 2.2
<i>Maritime transport in bulk according to IMO instruments</i>	IBC03	IBC03	IBC03	IBC03

15 Regulation information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<i>Relevant information regarding authorization:</i>	Not applicable.
<i>Relevant information regarding restriction:</i>	Not applicable.
<i>Other EU regulations:</i>	Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.
<i>Other National regulations:</i>	Not applicable

15.2 Other Inventory Status

<i>Country(s) or region</i>	<i>Inventory name</i>	<i>On inventory (yes/no)*</i>
<i>Australia</i>	Australian Inventory of Chemical Substances (AICS)	Yes
<i>Canada</i>	Domestic Substances List (DSL)/ Non-Domestic Substances List (NDSL)	Yes
<i>China</i>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<i>Europe</i>	European Inventory of Existing Commercial Chemical Substances (EINECS)/ European List of Notified Chemical Substances (ELINCS)	Yes
<i>Japan</i>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<i>Korea</i>	Existing Chemicals List (ECL)	Yes
<i>Philippines</i>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<i>United States</i>	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16 Other information:

16.1 Indication of changes:

Version 2.1 Amended by (EU) 2020/878

16.2 Abbreviations and acronyms:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation for rail International transportation of Dangerous goods

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: Code international maritime dangerous goods code

ICAO: International Civil Aviation Organization

IATA: International Air Transport Association

LC50: median lethal concentration

EC50: The effective concentration of substance that causes 50% of the maximum response.

NOEC: No Observed Effect Concentration

DNEL: derived no-effect level

PNEC: predicted no-effect concentration

16.3 Key literature references and sources for data

ECHA Registered substances data

16.4 Training instructions:

Not applicable.

16.5 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.6 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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