Safety Data Sheet
COMMISION REGUALTION (EU) NO 2015/830 OF 1st June 2015
Amending Annex II of Regulation EU No 453/2010 *Revision No-06*
Printing Date -25/08/2020 *Product Name – Bis2-Ethylhexylamine* *Revision Date- 24/08/2020*

1. Identification Of the Substance

1.1 Product Identifier

- ***Product Name:*** *Bis2-Ethylhexylamine*
- ***IUPAC Name:*** *2-ethyl-N-(2-ethylhexyl)hexan-1-amine*
- ***CAS No****: 106-20-7*
- ***EC No:*** *203-372-4*

1.2 Relevant Identified Uses of the substance or mixture and uses advised against: *As chemical Intermediate, as raw material in manufacture of corrosion inhibitors.*

- ***1.3 Details of the Supplier of the Safety Data Sheet***
- ***Manufacturer/supplier:***

Alkyl Amines Chemicals Ltd
401-407 , Nirman Vyapar Kendra, Plot No-10
Sect-17, Vashi, Navi Mumbai
India – 400703
Emergency Contact no- +91 2192 261305 / 261329 Mobile no: +919881973507 / +919423093443
Emergency Contact No for US only- *+1 703 527 3887 / 800 424 9300*

e-mail Address of the competent Person responsible for Safety Data Sheet:
rsattigeri@alkylamines.com
Information Dept: R&D

1.4 Emergency Telephone Numbers : *As mentioned above*

2. Hazard Identification

2.1Classification of Substance or Mixture

– Classification According to EC regulation 1272/2008

GHS05 Corrosion

S Eye damage Cat- 1 H318- *Causes serious eye damage*
kin Corrosion Cat- 1B H314- *Causes severe skin burns and eye damage*

GHS06 Skull and Bones

Acute Toxicity Dermal Cat-3 H311-*Toxic in contact with skin*
Acute Inhalation toxicity Cat-3 331*: Toxic if inhaled.*

Chronic Aquatic Toxicity cat:1 H410: *Very toxic to aquatic life with long lasting effects.*
Acute toxicity Oral Cat:4 H302*: Harmful if swallowed.*

2.2 Label Elements :
- Labelling according to EC Regulation No 1272/2008
The substance is classified and labelled according to CLP Regulation
Hazard Pictograms

Signal word – Danger
Hazard Statements-
H314 *Causes severe skin burns and eye damage.*
H311 *Toxic in contact with skin .*
H331 *Toxic if inhaled*
H302 *Harmful if swallowed.*
H410 *Very toxic to aquatic life with long lasting effect.*
Precautionary statements
Prevention:
P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
P273 *Avoid release to the environment.*
Response:
P305+P351+P338 IF IN EYES*: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing*
P303+P361+P353 IF ON SKIN (or hair): *Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower*
P301+P330+P331: IF SWALLOWED*: Rinse mouth. Do NOT induce vomiting*
P304+P340: IF INHALED*: Remove victim to fresh air and keep at rest in a position comfortable for breathing*
P310 *Immediately Call a POISON CENTER or doctor/physician.*
Storage:
P403+P235*-Store in a well-ventilated place. Keep cool.*
Disposal:
P501*-Dispose of contents/container through a waste management company authorized by the local government*
Other hazards
Substance may get absorbed in the body through skin. Vapours likely to form explosive mixture if warmed intensively.
Results of PBT and vPvB assessment
The substance is not considered to be PBT or vPvB

3.Composition/Information on Ingredients

Description	***CAS No***	***EC No***	***Content (% w/w)***
Bis 2-Ethylhexylamine	*106-20-7*	*203-372-4*	*>99%*

Molecular Formula *– C16H35N*
Molecular Wt- *241.46 g/mole*

4.First- Aid Measures

--4.1 Description of first aid measures
- General information:
Remove to fresh air immediately. Get medical attention immediately. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.
-After inhalation:
Keep at rest. Aerate with fresh air. Call a physician immediately. Symptoms of poisoning may develop many hours after exposure

-***After skin contact:***
Take off contaminated cloths immediately. Wash the portion with 3% aqueous acetic acid solution followed by plain water.. If skin irritation continues, consult a doctor.
- ***After eye contact:*** *Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.*
- ***After swallowing:***
Call a physician immediately. Do not induce vomiting without medical advice.
- ***4.2 Most important symptoms and effects, both acute and delayed***
Breathing shortness, cough, hypertensive effect, nausea
- ***4.3 Indication of any immediate medical attention and special treatment needed***
Patient to be treated symptomatically.

5. Fire Fighting Measures

-***5.1 Extinguishing media***
Suitable extinguishing agents
Carbon dioxide (CO_2), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.
· ***For safety reasons unsuitable extinguishing agents*** *Water with a full water jet.*
- ***5.2 Special hazards arising from the substance or mixture***
Nitrogen oxides (NOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)
Can form explosive vapour-air mixtures. Vapours are heavier than air and may spread along the floor.
- ***5.3 Advice for fire-fighters***
- ***Protective equipment:*** *Wear full protective and self-contained breathing apparatus.*
- ***Additional information***
Cool endangered containers with water spray jet.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
If without risk possible, move drums with material away from dangerous area.

6.Accidental release Measures

- ***6.1 Personal precautions, protective equipment and emergency procedures***
Avoid contact with skin and eyes.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Remove all ignition sources.
Use breathing protection against the effects of fumes/dust/aerosol.
Keep persons away from and upwind of spill/leak
-***6.2 Environmental precautions:***
Damp down gases/fumes/haze with water spray jet.
Do not allow the substance to enter drainage system, surface or ground water.
Inform respective authorities in case product reaches water or sewage system.
Prevent material from reaching sewage system, holes and cellars.
- ***6.3 Methods and material for containment and cleaning up:***
Use explosion proof equipments
Wear self-contained breathing apparatus and protective suit.
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
- ***6.4 Reference to other sections***
See Section 8 for information on personal protection equipment.

7. Handling and Storage

-***7.1 Precautions for safe handling***

Ensure good ventilation/exhaustion at the workplace.
Ensure good interior ventilation, especially at floor level (fumes are heavier than air).
Refilling /handling of the substance should be done in a close system.
Wash hands before breaks and immediately after handling the product. .
Avoid skin and eye contact under any circumstances.
· ***Information about protection against explosions and fires:***
Fumes can combine with air to form an explosive mixture.
Flammable fume/air mixtures may be formed in empty containers.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- ***7.2 Conditions for safe storage, including any incompatibilities***
· ***Storage***
· ***Requirements to be met by storerooms and containers:***
Store under shade at ambient temperature (<45^{0}C) & dry conditions in well-sealed containers
Observe all local and national regulations for storage of water polluting products
Keep the container tightly closed..
- ***Information about storage in one common storage facility:***
Incompatible Substances:
Strong Acids, Oxidizing Agents,
· ***Further information about storage conditions:***
Protect from heat and direct sunlight.
Store container in a well ventilated place.
Protect from overexposure to light.
Protect from humidity and keep away from water.
Store in a locked cabinet or with access restricted to specifically instructed persons.
- ***7.3 Specific end use(s)*** *Refer section 1.*

8. Exposure Control/Personal Protection

- ***Additional information about design of technical systems:*** *No further data; see item 7.*
- ***8.1 Control parameters***
The product does not contain any relevant quantities of substances with critical values that have to be monitored at work places.
- ***Additional information:*** *The lists that were valid during the compilation were used as basis.*
-8.2 Exposure controls
-Personal protective equipment
- ***General protective and hygienic measures***
Keep away from foodstuffs, beverages and food.
Do not eat, drink or smoke while working.
Instantly remove any contaminated garments.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Wash hands during breaks and at the end of the work.
- ***Breathing equipment:***
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- ***Protection of hands:***
Protective gloves
To avoid skin problems reduce the wearing of gloves to the required minimum.
Check the permeability prior to each renewed use of the glove.
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.
- ***Material of gloves***
Nitrile rubber /Nitrile latex
Recommended thickness of the material: ≥ 0.4 mm (EN374:level-4)
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- Penetration time of glove material
Breakthrough time : ≥ 240 min
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- As per practical experience gloves made of the following materials are suitable:
Polyvinyl chloride
Recommended thickness of the material: ≥ 0.8 mm
Penetration time: ≥ 30 min.
- Eye protection: *Tightly sealed safety goggle. In addition to safety goggle , use face shield if there are reasonable chances of splash on the face.*
- Body protection:
Antistatic protective clothing
Use protective suit.
Body protection must be chosen depending on activity and possible exposure.

9. Physical and Chemical Properties

-9.1 Information on basic Physical and Chemical Properties

General information	
Appearance/Physical state /colour	*Colourless to pale yellow liquid*
Explosive limit Upper	*3.7 1vol%*
Lower	*0.6 vol%*
Odour	*Amine like*
Vapour pressure	*0.0023 hPa @20°C*
Odour Threshold	*No data available*
Vapour density	*No data available*
PH	*No data available*
Density	*0.8040 g/ml @20°C*
Melting point/freezing point	*< -70 °C*
Solubility in water	*14 mg/l @20°C*
Initial Boiling Point/Boiling Range	*277.0 °C*
Flash Point	*130°C (cc)*
Evaporation Rate	*No data available*
Flammability (solid, gas)	*Not applicable*
Partition Coefficient : n-Octanol Water	*7.3 log Pow (25 °C)*
Auto ignition Temperature	*245°C*
Decomposition temperature	*No data available*
Viscosity	*3.683 mPa.s (dynamic)@ 20°C*

-9.2 Other Information- *Danger of explosion : Product is not explosive. However, formation of explosive air/vapour mixtures is possible.*

10. Stability and Reactivity

-10.1 Reactivity
- 10.2 Chemical stability:
Stable under normal conditions. No hazardous polymerization occurs.
- Thermal decomposition / conditions to be avoided:
Avoid impact, friction, heat, sparks, electrostatic charges .Light
- 10.3 Possibility of hazardous reactions
Flammable vapour-air mixtures may develop.

Used empty containers may contain product gases which form explosive mixtures with air.
Exothermic reaction with acids
Possibility of formation of nitrosamines with nitrites or other nitrosating agents
Corrosive in contact with Cu and it's alloys.
***- 10.4 Conditions to avoid** :*
Avoid static electricity discharge . Handle under nitrogen , protect from moisture.
- 10.5 Incompatible materials:
Strong oxidizing agents
Strong acids
- 10.6 Hazardous decomposition products:
Nitrogen oxides (NOx)
Carbon monoxide (CO) and Carbon dioxide (CO_2)

11. Toxicological Information

-11.1 Information on Toxicological effects
Acute Toxicity –
LD50/LC50 value that are relevant for classification

LD50 Oral (rat)	*1640 mg/kg (Journal of Industrial Hygiene and Toxicology)*
LD50 Dermal (Rabbit)	*956 mg/kg*
LC50 inhalation , 4 hrs Rat	*0.91 mg/l (aerosol)*
Skin corrosion/irritation, Rabbit	*corrosive*
Serious eye damage/eye irritation Rabbit	*Risk of serious eye damage*
Skin sensitization	*No skin sensitization was seen in animal studies.*
Genetic toxicity	*No mutagenic effects observed in laboratory test animals.*
Carcinogenicity	*No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.*
Reproductive Toxicity	*No data available*
Specific Target organ systemic Toxicity	*No data available*

Additional Toxicological Information-
Material causes destruction of tissue of mucus membrane and upper respiratory tack, eyes and skin.
Inhalation will result in shortness of breath, Headache and nausea.

12. Ecological Information

-12.1 Toxicity
-Aquatic toxicity:
Acute aquatic toxicity

Toxicity to Fish , LC50 – Leuciscus idus (Golden orfe)	*1.5-2.2 mg/l for 96 hrs*
Toxicity to Daphnia and other invertebrates (Daphnia Magna) EC50	*2.2 mg//l for 48 hrs*
Toxicity to algae (Desmodesmus subspicatus)	*>1 mg/l for 72 hrs*
Long term toxicity	
Daphnia Magna, Reproductive toxicity	*NOEC : 0.069mg/l (21d)*

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-12.2 Persistence and degradability
40-50 % in 39 days .Substance is moderately/partially biodegradable .
-12.3 Bioaccumulative potential

Weighed evidences suggest the substance will not be bio accumulative.
-12.4 Mobility in soil *No further relevant information available.*
-Additional ecological information:
-General notes: *Water hazard class 2 – Hazardous to water (classification according to Administrative Regulation)*
- 12.5 Results of PBT and vPvB assessment
. The substance is not considered to be PBT or vPvB
- 12.6 Other adverse effects *: Substance toxic to aquatic life. Avoid release to environment.*

13. Disposal Consideration

-13.1 Waste treatment methods
-Recommendation
Product -
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company
- Waste disposal key number: *According to local/national regulations.*
-European waste catalogue:
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
·- Uncleaned packagings:
-Recommendation: *Disposal must be made according to official regulations. . Drum decontamination shall be done by rinsing with 5% aqueous acetic acid solution followed by aqueous washes till neutral PH.*
It is strongly recommended to disfigure the container/drum before disposal.

14. Transport Information

	Section	ADR	IATA	IMDG
UN Number	14.1	2922	2922	2922
UN Proper Shipping Name	14.2	Corrosive liquid, Toxic N.O.S	Corrosive liquid, Toxic, N.O.S	Corrosive liquid, toxic N.O.S
Transport Hazard Class (es)	14.3	8	8	8
Subsidiary Risk		6.1	6.1	6.1
Packing Group	14.4	II	II	II
Environmental Hazard/Marine Pollutant	14.5	**YES** Symbol of Fish & Tree	**YES** Symbol of Fish & Tree	**YES** Symbol of Fish & Tree
Special Precautions for User	14.6	No data available	No data Available	Flammable liquid
ADR Tunnel restriction code		2/(E)	Not Applicable	Not Applicable
Classification code		CT1	Not Applicable	Not Applicable
HIN		86	Not Applicable	Not Applicable
EMs		Not Applicable	Not Applicable	F-A, S-B
Transportation in Bulk according to Annex II of Marpol and IBC code	14.7	Not Applicable	Not Applicable	No data available
Product Name		-	-	-
Ship Type		-	-	-
Pollution Category		-	-	-

15.Regulatory Information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
· National regulations
· Information about limitation of use: *Employment restrictions concerning young persons must be observed.*
· Decree to be applied in case of technical fault:
Quantity limits according to "EC Seveso directive" should be observed.

· ***Water hazard class:*** *Water hazard class 2 : hazardous for water*
· ***Other regulations, limitations and prohibitive regulations***
Observe restrictions on the marketing and use according to Annex XVII of Regulation (EC) No 1907/2006.
· ***15.2 Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

16. Other Information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

Dept Issuing MSDS- R&D

Only Representative : Global Product Compliance (Europe)AB, Lund , Sweden

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Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the
International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International
Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
TWA : Time weighted Average
STEL : Short term exposure limit
AXGIH: American Conference of Government Industrial Hyginist

Ref-

1) *Regulation (EC)No 1272/2008 of the European Parliament and of the Council*
2) *Guidance on the compilation Safety Data Sheet publish by ECHA Ver. 2.1 Feb 2014*
3) *European Chemicals Agency, http://echa.europa.eu/"*
4) *Toxnet HSDB*
5) *NIOSH Pocket Guide*
6)) *GESTIS Substance Data Base*