

Safety Data Sheet

COMMISSION REGULATION (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 – N,N,N',N'-Tetramethylethylenediamine Revision Date-24/08/2020

1. Identification Of the Substance

1.1 Product Identifier

- **Product Name:** N,N,N',N'-Tetramethylethylenediamine
- **Synonym:** 1,2 Bis (Dimethylamino)ethane
- **CAS No:** 110-18-9
- **EC No:** 203-744-6
- **Index No:** 612-103-00-3

1.2 Relevant Identified Uses of the substance or mixture and uses advised against: As laboratory reagent, in the synthesis of chemicals.

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 2117 235175/222 **Mobile no:** +919881973507 / +919423002721

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

2.1 Classification of Substance or Mixture

– Classification According to EC regulation 1272/2008



GHS02 Flame

Flammable Liquid Cat-2 H225 – Highly flammable liquid and vapour



GHS05 Corrosion

Skin Corrosion Cat- 1B H314- Causes severe skin burns and eye damage



GHS07 Exclamation

Acute Toxicity Oral Cat-4 H302- Harmful if swallowed

Acute Toxicity Inhalation Cat-4 H332- Harmful if inhaled

(Harmonized classification Used for hazard identification)

2.2 Label Elements :

- Labelling according to EC Regulation No 1272/2008

The substance is classified and labelled according to CLP Regulation

Hazard Pictograms

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**Signal word – Danger****Hazard Statements-****H225** Highly flammable liquid and vapour.**H314** Causes severe skin burns and eye damage.**H302** Harmful if swallowed.**H332** Harmful if inhaled.**Precautionary statements****Prevention:****P210** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**P280** Wear protective gloves/protective clothing/eye protection/face protection.**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**P310** Immediately Call a POISON CENTER or doctor/physician.**Storage :****P405** : Store locked up**Disposal:****P501-** Dispose of the content/container in accordance with the local/regional/national/international regulation**Note-** Available Harmonised classification used.**Other hazards**

No data available

Results of PBT and vPvB assessment· **PBT:** Not applicable.· **vPvB:** Not applicable**3. Composition/Information on Ingredients**

Description	CAS No	EC No	Content (% w/w)
N,N,N',N'- Tetramethylethylenediamine	110-18-9	203-744-6	>99.0

Index No- 612-103-00-3**Molecular Formula** – C₆H₁₆N₂**Molecular Wt-** 116.2 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:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness bring patient into stable side position for transport.

-After skin contact:

Take off contaminated cloths immediately. Wash the portion with soap and plenty of water.. If skin irritation continues, consult a doctor.

- After eye contact: Rinse opened eye for several minutes under running water. Remove contact lenses. Use eye protection. Call Doctor immediately .**- After swallowing:**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician..

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

Causes skin and eye burns

- 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**Carbon dioxide (CO₂), 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 (NO_x)Carbon monoxide (CO) and Carbon dioxide (CO₂)

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**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation.

Remove all ignition sources.

Use breathing protection against the effects of fumes/dust/aerosol.

Avoid contact with skin and eyes.

-6.2 Environmental precautions:

Damp down gases/fumes/haze with water spray jet.

Do not allow 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).

Restrict the quantity stored in the work place.

Do not inhale vapours/aerosols.

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.

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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^oC) & dry conditions in well-sealed containers

Observe regulations for storage of flammable liquids.

Observe all local and national regulations for storage of water polluting products

· Information about storage in one common storage facility:

Observe regulations for storage of flammable liquids.

· 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

Components which are applicable as workplace parameters.

-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

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.

-Recommended Material of gloves: Nitrile rubber

Thickness : 0.4 mm

Breakthrough time : 125 minutes

- 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: Tightly sealed safety glasses

- Body protection:

Antistatic protective clothing

Use protective suit.

Body protection must be chosen depending on activity and possible exposure.

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9. Physical and Chemical Properties**-9.1 Information on basic Physical and Chemical Properties****General Information-**

Appearance/Physical state /colour	Colourless liquid
Explosive limit Upper lower	9.0 vol % 1.0 vol %
Odour	Amine like
Vapour pressure	No data available
Odour Threshold	No data available
Vapour density	4.01 (air=1.0) @ 20 °C
PH (10% in water)	No data available
Density	0.7700 g/ml @ 20°C
Melting point/freezing point	-55 °C
Solubility in water	Soluble
Initial Boiling Point/Boiling Range	120 °C
Flash Point	19 °C
Evaporation Rate	No data available
Flammability (solid, gas)	Not Applicable
Partition Coefficient : n-Octanol Water	Log Pow= 0.3
Auto ignition Temperature	145 °C
Decomposition temperature	No data available
Viscosity- dynamic Kinematic	No data available
Danger of Explosion	Product is not explosive. However, formation of explosive air/vapour mixtures is possible.

-9.2 Other Information- Not applicable**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

- 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 (CO₂)

Nitrosamine , ammonia

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11. Toxicological Information

-11.1 Information on Toxicological effects

Acute Toxicity –

LD50/LC50 value that are relevant for classification

LD50 Oral (rat)	550 mg/kg (Re- ECHA dossier)
LD50 Dermal (Rat)	No data available. Substance is corrosive in nature
LC50 inhalation , 4 hrs Rat	1318 ppm , 4 hrs

Skin corrosion/irritation The substance is corrosive in nature

Rabbit

Serious eye damage/eye irritation Corrosive

Respiratory/skin sensitization No effect known

Germ cell mutagenicity No mutagenic effects observed in laboratory test animals.

Carcinogenicity IARC- 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 teratogenic effects observed in laboratory test animals

Specific Target organ systemic Toxicity No information available

Toxicity

Additional Toxicological Information-

No information available.

12. Ecological Information

-12.1 Toxicity

-Aquatic toxicity:

Toxicity to Fish , LC50 – *Leuciscus idus* No data available)

Toxicity to *Daphnia* and other invertebrates (*Daphnia Magna*) EC50 No data available

Toxicity to algae (green algae) No data available

-12.2 Persistence and degradability

No data available .

-12.3 Bioaccumulative potential

No data available

-12.4 Mobility in soil No further relevant information available.

-Additional ecological information:

-General notes: Water hazard class 1 – low hazardous to water (classification according to Administrative Regulation)

- 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not conducted

- 12.6 Other adverse effects : Not known based on available information.

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13. Disposal Consideration

-13.1 Waste treatment methods

-Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **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 initially rinsing with 5% aqueous acetic acid followed by water washing 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	2372	2372	2372
UN Proper Shipping Name	14.2	1,2- Di-(dimethylamino)- ethane	1,2- Di-(dimethylamino)- ethane	1,2- Di-(dimethylamino)- ethane
Transport Hazard Class (es)	14.3	3	3	3
Subsidiary Risk		Not Applicable	Not Applicable	Not Applicable
Packing Group	14.4	II	II	II
Environmental Hazard/Marine Pollutant	14.5	No	No	No
Special Precautions for User	14.6	No data available	No data Available	Flammable liquid
ADR Tunnel restriction code		2(D/E)	Not Applicable	Not Applicable
Classification code		F1	Not Applicable	Not Applicable
HIN		33	Not Applicable	Not Applicable
EMs		Not Applicable	Not Applicable	F-A , S-A
Transportation in Bulk according to Annex II of Marpol and IBC code	14.7	Not Applicable	Not Applicable	Not Applicable
Product Name		-	-	-

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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 (Self-assessment): 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

e-mail: sk@reach-onlyrep.eu info@gpcregulatory.com

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 Hygienist

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) US National library of Medicine
- 7) GESTIS Substance Data Base
- 8) www.cdc.gov , International Chemical safety cards (for Methylamine)
- 9) Sittig's Handbook of Toxic and Hazardous chemicals and Carcinogens