

SAFETY DATA SHEET

(According to Reach annex II and CLP)

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Date : 1 / 2 / 2012

Supersedes : 13 / 1 / 2011

SAM24

ALEM-ADVP-032



4.3 : Contact with water
liberates highly flammable
gases.

Danger



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

1.1. Product identifier

Trade name : SAM24
SDS Nr : ALEM-ADVP-032
Chemical formula : C8H22N2Si

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

1.3. Details of the supplier of the safety data sheet

Company identification : AIR LIQUIDE ELECTRONICS MATERIALS
Etablissement de Chalon-sur-Saône
1 rue Guy Moquet - BP 248
71106 Chalon-sur-Saône France

E-Mail address (competent person): : Securite.ALEM@airliquide.com

1.4. Emergency telephone number : ORFILA : +33 1 45 42 59 59 - ALEM : +33 3 85 42 56 40

2 Hazards identification

2.1. Classification of the substance or mixture

Hazard Class and Category Code
Regulation EC 1272/2008 (CLP)

- Physical hazards : Flammable liquids - Category 3 - Warning (CLP : Flam. Liq. 3)
Substances and mixtures, which in contact with water, emit flammable gases - Category 2 - Danger (CLP : Water-react. 2)
Reacts violently with water. (EUH014)
- Health hazards : Acute toxicity, Oral - Category 4 - Warning (CLP : Acute Tox. 4)
Acute toxicity, Inhalation - Category 4 - Warning (H332)
Skin corrosion - Category 1B - Danger (H314)

Classification EC 67/548 or EC 1999/45 : F; R14/15
R10
Xn; R20/22
C; R34

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2 Hazards identification (continued)

2.2. Label elements

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms



• Hazard pictograms code

: GHS02 - GHS05 - GHS07

• Signal word

: Danger

* • Hazard statements

: H332 : Harmful if inhaled.
: H314 : Causes severe skin burns and eye damage.
: H226 : Flammable liquid and vapour.
: H261 : In contact with water releases flammable gases.
: H302 : Harmful if swallowed.

• Supplemental hazard information

: EUH014 : Reacts violently with water.

• Precautionary statements

- Prevention

: P280 : Wear protective gloves/protective clothing/eye protection/face protection.
: P210 : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
: P260 : Do not breathe gas, vapours.

- Response

: P304+P340+P315 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice / attention.
: P303+P361+P353+P315 : IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get immediate medical advice / attention.
: P305+P351+P338+P315 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice / attention.

- Storage

: P405 : Store locked up.

2.3. Other hazards

: None.

3 Composition/information on ingredients

Substance / Preparation

: Substance.

Substance name	Contents	CAS No	EC No	Index No	Registration no	Classification
Bis(Diethylamino) Silane	:	27804-64-4	----	----	----	F; R15 R10 R14 Xn; R20/22 C; R34 Acute Tox. 4 (H332) Water-react. 2 (H261) Skin Corr. 1B (H314) Flam. Liq. 3 (H226) Acute Tox. 4 (H302) React. (EUH014)

Contains no other components or impurities which will influence the classification of the product.

Full text of R-phrases see chapter 16

Full text of H-statements see chapter 16

4 First aid measures

4.1. Description of first aid measures

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4 First aid measures (continued)

- Inhalation : Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical advice.
- Skin contact : After contact with skin, wash immediately with plenty of water. Remove immediately contaminated clothing. Seek medical attention immediately.
- Eye contact : Contact ophthalmologist immediately.
In case of eye contact, immediately rinse with clean water for 10-15 minutes.
- Ingestion : Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting because of corrosive effects. Call a physician immediately.
- 4.2. Most important symptoms and effects, both acute and delayed : Causes burns to the respiratory tract, eyes and skins.
- 4.3. Indication of any immediate medical attention and special treatment needed : No data available.

5 Fire-fighting measures

- Flammable class : Flammable.
- 5.1. Extinguishing media
- * - Suitable extinguishing media : For small fire : Sodium carbonate. Lime. Sand.
For large fire : Carbon dioxide. Dry powder. Powdered graphite. Dolomite. Sodium chloride.
- Unsuitable extinguishing media : Water. Do not use extinguishing media containing water. Halons.
- * 5.2. Special hazards arising from the substance or mixture : When heated to decomposition, emits toxic fumes.
Reacts violently with water, liberating extremely flammable gases.
Heavier than air, vapours may travel long distances along ground, ignite and flash back to source.
- Hazardous combustion products : Diethylamine. Ammonia. Carbon monoxide. Carbon dioxide. Silicon oxide. Nitrogen oxides.
- Prevention : No naked lights. No smoking. Prevent moisture contact. Contact with water may release flammable gases or spontaneously ignite.
- 5.3. Advice for fire-fighters
- Surrounding fires : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Cool down the containers/equipment exposed to heat with a water spray. Ensure that there is no direct contact between the water and the product
- Protection against fire : Do not enter fire area without proper protective equipment, including respiratory protection.
- Special procedures : Exercise caution when fighting any chemical fire.

6 Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures : Equip cleanup crew with proper protection.
Respiratory protection equipment may be necessary. Avoid contact with skin and eyes. Do not breathe vapour. Remove ignition sources. Ventilate area.
- Technical measures : Avoid contact with : Moisture. Water. (Contact with water may release flammable gases or spontaneously ignite.)
- General precautions : No naked lights. No smoking.
Evacuate and limit access.

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6 Accidental release measures (continued)

- 6.2. Environmental precautions : Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Notify authorities if liquid enters sewers or public waters.
- 6.3. Methods and material for containment and cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
Use suitable disposal containers.
Dispose in a safe manner in accordance with local/national regulations.
- * 6.4 Reference to other sections : For further information see section 13

7 Handling and storage

- 7.1. Precautions for safe handling
- Technical protective measures : Provide good ventilation in process area to prevent formation of flammable vapour.
Use grounded electrical/mechanical equipment. Use only non-sparking tools. Use special care to avoid static electric charges.
- Handling : Avoid contact with skin and eyes. Do not breathe vapour. Handle in accordance with good industrial hygiene and safety procedures.
- Industrial hygiene : When using, do not eat, drink or smoke.
Wash hands and other exposed areas with soap and water before leaving work.
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- 7.2. Conditions for safe storage, including any incompatibilities
- Storage : Keep container tightly closed.
Store in dry, cool, well-ventilated area.
Store under inert atmosphere.
Keep away from heat.
Keep away from sources of ignition.
Protect from freezing.
- Storage - away from : Moisture. Water. . Direct sunlight. . Strong oxidizing agents. .
- 7.3. Specific end use(s) : No data available.

8 Exposure controls/personal protection

- 8.1. Control parameters
- * - USA : TLV (TWA) = 5 ppm - TLV(STEL) = 15 ppm (ACGIH)
TLV (TWA) = 10 ppm - TLV(STEL) = 25 ppm (OSHA)
TLV (TWA) = 10 ppm - TLV(STEL) = 25 ppm (NIOSH)
- 8.2. Exposure controls
- Respiratory protection : Supplied air respirator if working in a confined area.
- Hand protection : Wear suitable gloves resistant to chemical penetration.
Use rubber gloves.
- Skin protection : Use chemically protective clothing.
- Eye protection : Chemical goggles or safety glasses.

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9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state at 20 °C	: Liquid.
Colour	: Colourless.
Odour	: Amine.
* Olfactory limit	: Not established.
* pH value	: Not established.
* Melting point [°C]	: Not established.
Boiling point [°C]	: 188
Flash point [°C]	: > 30
* Flammability (solid, gas)	: Not applicable.
Explosion limits	
Explosion limits - lower [%]	: Diethylamine. 1.8
Explosion limits - upper [%]	: Diethylamine. 10.1
* Vapour pressure	: Not established.
Relative vapour density (air=1)	: > 1
Relative density, liquid (water=1)	: 0.788 (@ 25 °C)
Solubility in water	: Reacts violently with water.
* Log P octanol / water at 20°C	: Not established.
Auto-ignition temperature [°C]	: Diethylamine. < 312
* Decomposition point [°C]	: Not established.
* Viscosity	: Not established.
* Explosive properties	: Not applicable.
* Oxidizing properties	: Non oxidizing material according to EC criteria
Evaporation rate (ether=1)	: < 1
9.2. Other information	: No data available.
Molecular weight	: 174.36

10 Stability and reactivity

10.1. Reactivity	: Vapour mixes readily with air, forming explosive mixtures.
10.2. Chemical stability	: Stable under normal conditions.
10.3. Possibility of hazardous reactions	: Reacts violently with water liberating highly flammable gases.
10.4. Conditions to avoid	: Heat. Direct sunlight. Open flame.
10.5. Incompatible materials	: Water. Moisture. Oxidizing agent.
10.6. Hazardous decomposition products	: Carbon monoxide. Carbon dioxide. Diethylamine. Ammonia. Silicon dioxide. Nitrogen oxides.

11 Toxicological information

11.1. Information on toxicological effects

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11 Toxicological information (continued)

- * Acute toxicity : Harmful if inhaled.
Harmful if swallowed.
- Rat oral LD50 [mg/kg] : Diethylamine : 540
- Rabbit dermal LD50 [mg/kg] : Diethylamine : 633
- Rat inhalation LC50 [mg/l/4h] : Diethylamine : 12.1
- Skin corrosion/irritation : Causes burns.
- Serious eye damage/irritation : Risk of serious damage to eyes.
- * Respiratory or skin sensitization : No sensitizing effect reported
- * Germ cell mutagenicity : No data available.
- * Carcinogenicity : No data available.
Not listed. (IARC)
- * Reproductive toxicity : No data available.
- STOT - single exposure : May cause irritation to the respiratory tract and to other mucous membranes.
- * STOT - repeated exposure : No data available.
- * Aspiration hazard : No data available.

12 Ecological information

- 12.1. Toxicity : No data available.
Avoid release to the environment.
- LC50-96 Hour - fish [mg/l] : Diethylamine : 855
- 48 H-LC50 - Daphnia magna [mg/l] : Diethylamine : 56
- 12.2. Persistence and degradability : No data available.
- 12.3. Bioaccumulative potential : No data available.
- 12.4. Mobility in soil : No data available.
- 12.5. Results of PBT and vPvB assessment : No data available.
- 12.6. Other adverse effects : No data available.

13 Disposal considerations

- 13.1. Waste treatment methods : Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

14 Transport information

- * 14.1. UN number : 3398
- * 14.2. UN proper shipping name : ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE
- * 14.3. Transport hazard class(es) : 4.3



- * 14.4. Packing group : II



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14 Transport information (continued)

- 14.5. Environmental hazards : No data available.
14.6. Special precautions for user : Tunnel code (ADR) : D/E
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code : No data available.

15 Regulatory information

- 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.
15.2. Chemical Safety Assessment : No data available.

16 Other information

- List of full text of R-phrases in section 3. : R10 : Flammable.
R14 : Reacts violently with water.
R15 : Contact with water liberates highly flammable gases.
R20/22 : Harmful by inhalation and if swallowed.
R34 : Causes burns.
- List of full text of H-statements in section 3. : EUH014 : Reacts violently with water.
H226 : Flammable liquid and vapour.
H261 : In contact with water releases flammable gases.
H302 : Harmful if swallowed.
H314 : Causes severe skin burns and eye damage.
H332 : Harmful if inhaled.
- Revision : This sheet was updated (refer to the date at the top of this page)
- Further information : This safety data sheet has been written in conformity with the annex II of the regulation (EC) 1907/2006 (REACH) and the regulation (EC) N° 1272/2008 (CLP).
Ensure all national/local regulations are observed.
Ensure operators understand the flammability hazard.
Users of breathing apparatus must be trained.

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