


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

- **Product details**
- **Trade name:** **PEROXAN AZDN**
- **Application of the substance / the preparation** Reaction initiator
For industrial use
- **Manufacturer/Supplier:** PERGAN GmbH
Hilfsstoffe für industrielle Prozesse
Schlavenhorst 71
D-46395 Bocholt
Tel: +49 2871 9902-0
Fax: +49 2871 9902-50
- **Further information obtainable from:** Environment protection / Security of labour
Competent person:
* Kathrin Bohland (Sales) e-mail: k.bohland@pergan.com
* Christoph Wilting (Environment protection / Security of labour) e-mail: c.wilting@pergan.com
- **Information in case of emergency:** - Tel: +49 2871 9902-0

2 Hazards identification

- **Hazard description:**  Xn Harmful
E Explosive
- **Information concerning particular hazards for human and environment:** The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
R 2 Risk of explosion by shock, friction, fire or other sources of ignition.
R 11 Highly flammable.
R 20/22 Harmful by inhalation and if swallowed.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Classification system:** The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

3 Composition/information on ingredients

- **Chemical characterization**

· **Dangerous components:**

CAS: 78-67-1 EINECS: 201-132-3 Index number: 608-019-00-1	2,2'-dimethyl-2,2'-azodipropionitrile	Xn, E, F; R 2-11-20/22-52/53	>98%
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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **General information:** Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Take care of personal protection for the first aider.
- **After inhalation:** Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
Take affected persons into fresh air and keep quiet.
- **After skin contact:** Immediately remove contaminated clothing.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Call for a doctor immediately.

5 Fire-fighting measures


- **Suitable extinguishing agents:** CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards caused by the substance, its products of combustion or resulting gases:** During heating or in case of fire poisonous gases are produced.
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **Protective equipment:** Mouth respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

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Self-protection first!

6 Accidental release measures

- **Person-related safety precautions:**
 - Mount respiratory protective device.
 - Remove persons from danger area.
 - After exceeding the emergency temperature must be diluted with a suitable desensitisation agent to < 10 %.
 - In case of further temperature should be cooled with waterspray from a safe distance.
 - Take precautionary measures against static discharges.
 - Wear breathing apparatus with filter A during decomposition of materials.
 - Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
 - Inform respective authorities in case of seepage into water course or sewage system.
- **Measures for cleaning/collecting:**
 -  Do not allow to enter sewers/ surface or ground water.
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.
 - Pick up mechanically, collect in a suitable receptacle and dispose in accordance with government regulations.
- **Additional information:**
 - In case of large spillage the environmental authority should be informed.

7 Handling and storage

- **Handling:**
 - **Information for safe handling:**
 - Pay attention to the special requirements of your local authorities for handling with dangerous goods.
 - Thorough dedusting.
 - Keep away from heat and direct sunlight.
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.
 - Prevent formation of dust.
 - Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
 - Handle with care. Avoid jolting, friction and impact.
 - Restrict the quantity stored at the work place.
 - Use only in well ventilated areas.
 - Before break and at the end of work hands should be thoroughly washed.
 - Only use tools made of suitable materials (e. g. polyethylene or stainless steel).
 - The product must be preserved, stored and transported continuously cool.
 - Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
 - While using do not eat, drink or smoke.
 - Do not generate flames or sparks.
 - Keep product and emptied container away from heat and sources of ignition.
 - Avoid shock and friction.
 - Take precautionary measures against static discharges.
 - **Information about fire - and explosion protection:**
 -  Do not smoke.
 - Protect from heat.
 - Protect against electrostatic charges.
 - Prevent impact and friction.
 - Keep respiratory protective device available.
 - Use explosion-proof apparatus / fittings and spark-proof tools.
 - Dust can combine with air to form an explosive mixture.
 -  Avoid open flames, sparks, direct sunlight and other sources of ignition.
 - Keep ignition sources away - Do not smoke.
- **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
 - Pay attention to the special requirements of your local authorities for storing dangerous goods.
 - Prevent any seepage into the ground.
 - Use only receptacles specifically permitted for this substance/product.
 - **Information about storage in one common storage facility:**
 - Store away from foodstuffs, drinks and feeding stuffs.
 - **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.

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Protect from contamination.
Store under lock and key and with access restricted to technical experts or their assistants only.

- **Recommended storage temperature (To maintain quality):** max.: +25°C
- **Control temperature:** +40°C
- **Emergency temperature:** +45°C
- **Storage class:** 4.1 A "Flammable solids" (VCI Guideline)

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **Personal protective equipment:**
· **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Be sure to clean skin thoroughly after work and before breaks.
- **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.
Use suitable respiratory protective device in case of insufficient ventilation.
 Filter P2
- **Protection of hands:**
Only use chemical-protective gloves with CE-labelling of category III.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Protective gloves
- **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.
Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Neoprene
- **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**
 Tightly sealed goggles
- **Body protection:** Protective work clothing

9 Physical and chemical properties

· General Information	
· Form:	Solid Powder
· Colour:	Whitish
· Odour:	Characteristic
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Decomposition temperature:	+50°C (SADT)
· Self-igniting:	Product is not selfigniting.

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· Danger of explosion:	Risk of explosion by shock, friction, fire or other sources of ignition.
· Density:	Not determined.
· Bulk density at 20°C:	300 - 500 kg/m ³
· Solubility in / Miscibility with water:	Insoluble.
· Segregation coefficient (n-octanol/water):	1.1 log POW

*** 10 Stability and reactivity**

- **Thermal decomposition / conditions to be avoided:** SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT.
- **Materials to be avoided:** No decomposition if used according to specifications.
Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e.g. heavy-metal compounds and amines).
alkali metals
Warm concentrated solution in ketones, aldehydes, alcohols, heptane
- **Dangerous reactions**
· **Dangerous decomposition products:** Self-accelerating decomposition at SADT.
Danger of forming toxic pyrolysis products.
Hydrocarbons, carbon dioxide and -monoxide.
No hazardous decomposition products if used and stored according to specifications.
- **Major decomposition products:** nitrogen
Tetramethyl succinonitrile
2-Methylpropanitrile
Methacrylonitrile
Isobutyronitrile
- **Additional information:** Emergency procedures will vary depending on conditions. The customer should have an emergency response plan in place.

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

78-67-1 2,2'-dimethyl-2,2'-azodipropionitrile

Oral	LD50	670 mg/kg (rattus)
Inhalative	LC50 / 4h	0.95 mg/l (rattus)

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritant effect.
- **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful

12 Ecological information

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

78-67-1 2,2'-dimethyl-2,2'-azodipropionitrile

EC50 / 48h	>367 mg/l (daphnia)
IC50 / 72h	2.9 mg/l (pseudokirchneriella subcapitata)
LC50 / 96h	580 mg/l (brachydanio rerio)

- **Remark:** Harmful to fish
- **General notes:** Harmful to aquatic organisms
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.


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Danger to drinking water if even small quantities leak into the ground.

13 Disposal considerations

- **Product:**
- **Recommendation**  Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste disposal key:** Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.
- **Uncleaned packaging:**
- **Recommendation:** This material and its container must be disposed of as hazardous waste.

14 Transport information

· **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 4.1 (SR2) Flammable solids, self-reactive substances and solid desensitised explosives.
- **Danger code (Kemler):** -
- **UN-Number:** 3234
- **Packaging group:** -
- **Hazard label:** 4.1
- **Description of goods:** 3234 SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED (2,2'-AZODI((ISOBUTYRONITRILE))
- **RID / GGVSE:** no admission

· **Maritime transport IMDG:**



- **IMDG Class:** 4.1
- **UN Number:** 3234
- **Label:** 4.1
- **Packaging group:** -
- **Marine pollutant:** No
- **Proper shipping name:** SELF-REACTIVE SOLID TYPE C, TEMPERATURE CONTROLLED (2,2'-AZODI((ISOBUTYRONITRILE))

· **Air transport ICAO-TI and IATA-DGR:**

- **Remarks:** no admission

· **Transport/Additional information:**

- **Control temperature:** +40°C
- **Emergency temperature:** +45°C

15 Regulatory information

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**



Xn Harmful
E Explosive

· **Hazard-determining components of labelling:**

2,2'-dimethyl-2,2'-azodipropionitrile

· **Risk phrases:**

2 Risk of explosion by shock, friction, fire or other sources of ignition.
11 Highly flammable.
20/22 Harmful by inhalation and if swallowed.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**

39 Wear eye/face protection.
41 In case of fire and/or explosion do not breathe fumes.
47 Keep at temperature not exceeding +40 °C.

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61 Avoid release to the environment. Refer to special instructions/safety data sheets.

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

· **Please note:** Take care of the respective local regulations.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant R-phrases**

11 Highly flammable.
2 Risk of explosion by shock, friction, fire or other sources of ignition.
20/22 Harmful by inhalation and if swallowed.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing MSDS:**

Environment protection / Security of labour

· **Contact:**

Tel: +49 2871 9902-0
E-mail: mail@pergan.com

· * **Data compared to the previous version altered.**