Safety Data Sheet
APOLLO

Safety Data Sheet dated 14/4/2022, version 2.1
This version cancels and substitutes any previous version

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

1.1. Product identifier
Mixture identification:
Trade name: APOLLO

1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use:
Cleaner for solar panels

1.3. Details of the supplier of the safety data sheet
Company:
ERRECOM SPA
Via Industriale, 14
Corzano (BS) Italy
Tel. +39 030/9719096

Competent person responsible for the safety data sheet:
lab@errecom.it

1.4. Emergency telephone number
+39 02-6610-1029 Poison Control Center Niguarda Ca' Granda - Milano - ITALY

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
EC regulation criteria 1272/2008 (CLP)
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
Adverse physicochemical, human health and environmental effects:
No other hazards

2.2. Label elements
The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).
Hazard pictograms:
None
Hazard statements:
None
Precautionary statements:
None
Special Provisions:
EUH210 Safety data sheet available on request.
Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%
Other Hazards:
No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances
N.A.

3.2. Mixtures
Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 2.5% - < 5%	3-methoxy-3-methylbutan-1-ol	CAS: 56539-66-3 EC: 260-252-4 REACH No.: 01-21199763 33-33-XXXX	3.3/2 Eye Irrit. 2 H319
>= 1% - < 2.5%	Alkane C6-C8 (even numbered), 1-sulphonic acid, sodium salt	EC: 939-625-7 REACH No.: 01-21199851 68-23-XXXX	3.1/4/Oral Acute Tox. 4 H302 3.3/2 Eye Irrit. 2 H319 3.2/2 Skin Irrit. 2 H315

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

In case of Ingestion:

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

No information available.

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

Treatment:

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand
6.3. Methods and material for containment and cleaning up
Wash with plenty of water.
6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid contact with skin and eyes, inhalation of vapours and mists.
Advice on general occupational hygiene:
Do not eat or drink while working.
See also section 8 for recommended protective equipment.
7.2. Conditions for safe storage, including any incompatibilities
Store between + 5 ° C / + 41 ° F and + 30 ° C / + 86 ° F.
Keep away from food, drink and feed.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.
7.3. Specific end use(s)
Information not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No occupational exposure limit available
DNEL Exposure Limit Values
3-methoxy-3-methylbutan-1-ol - CAS: 56539-66-3
Worker Professional: 18 mg/m³ - Consumer: 4.4 mg/m³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 6.25 mg/kg - Consumer: 3.1 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 2.5 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
PNEC Exposure Limit Values
N.A.
8.2. Exposure controls
Eye protection:
Tightly fitting safety goggles.
Protection for skin:
Not needed for normal use.
Protection for hands:
One-time gloves.
NBR (nitrile rubber).
PE (polyethylene).
Material thickness: minimum 0.12 mm.
Break through time : > 480 min
Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
Respiratory protection:

Not needed for normal use.
Thermal Hazards:
None
Environmental exposure controls:
None
Appropriate engineering controls:
None

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Physical state:	Liquid	--	--
Colour:	Colourless	--	--
Odour:	characteristic	--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	N.A.	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	>93 ° C	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	11	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	soluble	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	1.04 g/mL (20°C / 68°F)	ASTM-D4052	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

9.2. Other information
No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions
10.2. Chemical stability
Stable under normal conditions
10.3. Possibility of hazardous reactions
None
10.4. Conditions to avoid
Stable under normal conditions.
10.5. Incompatible materials

Information not available.

10.6. Hazardous decomposition products

No data available

SECTION 11: Toxicological information

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

Toxicological information of the product:

a) acute toxicity

Not classified

Based on available data, the classification criteria are not met

b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

c) serious eye damage/irritation

Not classified

Based on available data, the classification criteria are not met

d) respiratory or skin sensitisation

Not classified

Based on available data, the classification criteria are not met

e) germ cell mutagenicity

Not classified

Based on available data, the classification criteria are not met

f) carcinogenicity

Not classified

Based on available data, the classification criteria are not met

g) reproductive toxicity

Not classified

Based on available data, the classification criteria are not met

h) STOT-single exposure

Not classified

Based on available data, the classification criteria are not met

i) STOT-repeated exposure

Not classified

Based on available data, the classification criteria are not met

j) aspiration hazard

Not classified

Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

3-methoxy-3-methylbutan-1-ol - CAS: 56539-66-3

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 4400 mg/kg - Source: OECD TG 401

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg

b) skin corrosion/irritation:

Test: Skin Irritant - Species: Rabbit Negative - Notes: slightly skin irritation

Test: Skin Sensitization - Route: Skin - Species: Guinea pig Negative - Source: Maximisation test

c) serious eye damage/irritation:

Test: Eye Irritant - Route: Eyes - Species: Rabbit Positive - Notes: Eye irritation, with reversal within 21 days

e) germ cell mutagenicity:

Test: Ames test - Species: Generic Bacteria Negative - Source: OECD TG 471

Test: Mutagenesis - Route: In vitro Negative - Source: OECD TG 473

f) carcinogenicity:

Test: Genotoxicity - Route: In vitro - Species: mammalian cells Negative - Source: OECD TG 476

g) reproductive toxicity:

Test: Genotoxicity - Route: Oral - Species: Rat Negative - Source: OECD TG 421

11.2. Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Not classified for environmental hazards

Based on available data, the classification criteria are not met

3-methoxy-3-methylbutan-1-ol

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 100 mg/L - Duration h: 96 - Notes: Oryzias latipes - OECD TG 203

Endpoint: EC50 - Species: Daphnia > 1000 mg/L - Duration h: 48 - Notes: Daphnia magna - OECD TG 402

Endpoint: NOEC - Species: Algae 1000 mg/L - Duration h: 72 - Notes: Pseudokirchneriella subcapitata - OECD TG 201

Endpoint: ErC50 - Species: Algae > 1000 mg/L - Duration h: 72 - Notes: Pseudokirchneriella subcapitata - OECD TG 201

Endpoint: EC50 - Species: Bacteria > 1000 mg/L - Duration h: 3 - Notes: OECD TG 209

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: Daphnia 100 mg/L - Duration h: 504 - Notes: OECD TG 211

12.2. Persistence and degradability

3-methoxy-3-methylbutan-1-ol - CAS: 56539-66-3

Biodegradability: Readily biodegradable - Test: OECD 302 C - Duration: 28 d - %: 100

Biodegradability: Readily biodegradable - Test: OECD 310 - Duration: 28 d - %: 78.9

12.3. Bioaccumulative potential

3-methoxy-3-methylbutan-1-ol - CAS: 56539-66-3

Bioaccumulation: Not bioaccumulative - Test: log Pow 0.18

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number or ID number
Not classified as dangerous in the meaning of transport regulations.
14.2. UN proper shipping name
N.A.
14.3. Transport hazard class(es)
N.A.
14.4. Packing group
N.A.
14.5. Environmental hazards
ADR-Enviromental Pollutant: No
IMDG-Marine pollutant: No
14.6. Special precautions for user
N.A.
14.7. Maritime transport in bulk according to IMO instruments
N.A.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 2020/878
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:
Restrictions related to the product:
Restriction 40
Restrictions related to the substances contained:
Restriction 75

Where applicable, refer to the following regulatory provisions :
Directive 2012/18/EU (Seveso III)
Regulation (EC) nr 648/2004 (detergents).
Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):
Seveso III category according to Annex 1, part 1
None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Full text of phrases referred to in Section 3:

H319 Causes serious eye irritation.
H302 Harmful if swallowed.
H315 Causes skin irritation.

Hazard class and hazard category	Code	Description
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Irrit. 2	3.3/2	Eye irritation, Category 2

This document was prepared by a competent person who has received appropriate training.
Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods

	by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.