Safety Data Sheet
POE/PAG ID

Safety Data Sheet dated 22/3/2019, version 2
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: POE/PAG ID
1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended use:
Test to identify the type of AC/R Lubricant (either POE or PAG)
1.3. Details of the supplier of the safety data sheet
Company:
ERRECOM SRL
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)


Danger, Flam. Liq. 2, Highly flammable liquid and vapour.


Warning, Acute Tox. 4, Harmful if swallowed.


Warning, Eye Irrit. 2, Causes serious eye irritation.

Adverse physicochemical, human health and environmental effects:
No other hazards
2.2. Label elements
Hazard pictograms:

Danger
Hazard statements:
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
Precautionary statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Special Provisions:
None
Contains
ethanediol

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
vPvB Substances: None - PBT Substances: None
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
>= 50% - < 60%	ethanol	Index number: 603-002-00-5 CAS: 64-17-5 EC: 200-578-6 REACH No.: 01-21194576 10-43-XXXX	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319
>= 40% - < 50%	ethanediol	Index number: 603-027-00-1 CAS: 107-21-1 EC: 203-473-3 REACH No.: 01-21194568 16-28-XXXX	3.1/4/Oral Acute Tox. 4 H302
>= 2.5% - < 5%	propan-2-ol	Index number: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 REACH No.: 01-21194575 58-25-XXXX	2.6/2 Flam. Liq. 2 H225 3.3/2 Eye Irrit. 2 H319 3.8/3 STOT SE 3 H336

SECTION 4: First aid measures

4.1. Description of first aid measures
In case of skin contact:
After contact with skin, wash immediately with soap and plenty of water.
Wash contaminated clothing before using them.
In case of eyes contact:
After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.
Protect uninjured eye.
In case of Ingestion:
Call a doctor immediately. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person and if indicated by the doctor.
Give nothing to eat or drink.
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
For symptoms and effects caused by substances, see section 11.
4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Treatment:
No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
CO2 or Dry chemical fire extinguisher.
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
Wear personal protection equipment.
Remove all sources of ignition.
Remove persons to safety.
See protective measures under point 7 and 8.

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.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and well-ventilated place.
Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
Incompatible materials:
Store containers away from any incompatible materials, checking section 10.

Instructions as regards storage premises:
Cool and adequately ventilated.

7.3. Specific end use(s)
Information not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethanol - CAS: 64-17-5
- ACGIH - STEL(15min): 1884 mg/m3, 1000 ppm
- AGW - TWA(8h): 960 mg/m3, 500 ppm - STEL(15min): 1920 mg/m3, 1000 ppm
- MAK - TWA(8h): 960 mg/m3, 500 ppm - STEL(15min): 1920 mg/m3, 1000 ppm
- VLA - STEL(15min): 1910 mg/m3, 1000 ppm
- VLEP - TWA(8h): 1900 mg/m3, 1000 ppm - STEL(15min): 9500 mg/m3, 5000 ppm
- WEL - TWA(8h): 1920 mg/m3, 1000 ppm
- TLV - TWA(8h): 1900 mg/m3, 1000 ppm
- GVI - TWA(8h): 1900 mg/m3, 1000 ppm
- NDS - TWA(8h): 1900 mg/m3
- NPHV - TWA(8h): 960 mg/m3, 500 ppm - STEL(15min): 1920 mg/m3

ethanediol - CAS: 107-21-1
- EU - TWA(8h): 52 mg/m3, 20 ppm - STEL: 104 mg/m3, 40 ppm - Notes: Skin
- ACGIH - TWA(8h): 25 ppm - STEL: 50 ppm - Notes: (V), A4 - URT irr
- AGW - TWA(8h): 26 mg/m3, 10 ppm - STEL(15min): 52 mg/m3, 20 ppm - Notes: Skin
- MAK - TWA(8h): 26 mg/m3, 10 ppm - STEL(15min): 52 mg/m3, 20 ppm - Notes: Skin
- VLA - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- VLEP - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- WEL - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm
- TLV - TWA(8h): 125 mg/m3, 50 ppm - STEL(15min): 125 mg/m3, 50 ppm
- GVI - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- TLV - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- NDS - TWA(8h): 15 mg/m3 - STEL(15min): 20 mg/m3
- NPHV - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- ESD - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- OEL - TWA(8h): 52 mg/m3, 20 ppm - STEL(15min): 104 mg/m3, 40 ppm - Notes: Skin
- ACGIH - STEL: 10 mg/m3 - Notes: (I, H), A4 - URT irr

propan-2-ol - CAS: 67-63-0
- ACGIH - TWA(8h): 492 mg/m3, 200 ppm - STEL: 400 ppm - Notes: A4, BEI - Eye and URT irr, CNS impair
- AGW - TWA(8h): 500 mg/m3, 200 ppm - STEL(15min): 1000 mg/m3, 400 ppm
- MAK - TWA(8h): 500 mg/m3, 200 ppm - STEL(15min): 1000 mg/m3, 400 ppm
- VLA - TWA(8h): 500 mg/m3, 200 ppm - STEL(15min): 1000 mg/m3, 400 ppm
- VLEP - STEL(15min): 980 mg/m3, 400 ppm
- WEL - TWA(8h): 999 mg/m3, 400 ppm - STEL(15min): 1250 mg/m3, 500 ppm
- TLV - TWA(8h): 980 mg/m3, 400 ppm - STEL(15min): 1225 mg/m3, 500 ppm
- NDS - TWA(8h): 900 mg/m3 - STEL(15min): 1200 mg/m3
- NPHV - TWA(8h): 500 mg/m3, 200 ppm - STEL(15min): 1000 mg/m3
- MV - TWA(8h): 500 mg/m3, 200 ppm
- GVI - TWA(8h): 999 mg/m3, 400 ppm - STEL(15min): 1250 mg/m3, 500 ppm

DNEL Exposure Limit Values
N.A.

PNEC Exposure Limit Values
N.A.

8.2. Exposure controls

Eye protection:
Protective airtight goggles (ref. Standard EN 166).
Protection for skin:
Not needed for normal use.
Protection for hands:
Suitable gloves type:
One-time gloves.
Suitable material:
NBR (nitrile rubber).
NR (natural rubber, natural latex).
CR (polychloroprene, chloroprene rubber).
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 necessary for normal use.
In the case of vapour formation use a respirator with an approved filter.
Mask with filter "A", brown colour
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

Appearance and colour:	liquid yellow
Odour:	characteristic
Odour threshold:	N.A.
pH:	N.A.
Melting point / freezing point:	N.A.
Initial boiling point and boiling range:	N.A.
Solid/gas flammability:	N.A.
Upper/lower flammability or explosive limits:	N.A.
Vapour density:	N.A.
Flash point:	24 ° C
Evaporation rate:	N.A.
Vapour pressure:	N.A.
Relative density:	0.9 g/mL (+20°C/+68°F)
Solubility in water:	total
Solubility in oil:	N.A.
Partition coefficient (n-octanol/water):	N.A.
Auto-ignition temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidizing properties:	N.A.

9.2. Other information

Miscibility:	N.A.
Fat Solubility:	N.A.
Conductivity:	N.A.
Substance Groups relevant properties	N.A.

V.O.C. (w/w): N.A.

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.
Ethylene glycol: may absorb moisture from the atmosphere up to twice its own weight. It decomposes at temperatures above 200 ° C / 392 ° F.

10.2. Chemical stability

Stable under normal conditions

10.3. Possibility of hazardous reactions

ETHANOL: risk of explosion on contact with: alkali metals, alkaline oxides, calcium hypochlorite, monofluoride sulfur, acetic anhydride (with acids), concentrated hydrogen peroxide, perchlorates, perchloric acid, perchloronitrile, mercury nitrate, nitric acid, silver and nitric acid, silver nitrate, silver nitrate and ammonia, silver oxide and ammonia, strong oxidizing agents, nitrogen dioxide. It can react dangerously with: bromine acetylene, chlorine acetylene, bromine trifluoride, chromium trioxide, chromyl chloride, oxiranes, fluorine, potassium tert-butoxide, lithium hydride, phosphorus trioxide, platinum black, zirconium chloride (IV), iodide zirconium (IV).
Forms explosive mixtures with air.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Ethylene glycol: glycolaldehyde, glyoxal, acetaldehyde, methane, formaldehyde, carbon monoxide, hydrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information of the product:

POE/PAG ID

a) acute toxicity

The product is classified: Acute Tox. 4 H302

b) skin corrosion/irritation

Not classified

Based on available data, the classification criteria are not met

c) serious eye damage/irritation

The product is classified: Eye Irrit. 2 H319

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

Adverse health effects
Acute effects: The product is harmful if swallowed and even small amounts of product may cause serious health problems (stomach pain, nausea, vomiting, diarrhea). Ethylene glycol: following ingestion it initially stimulates the central nervous system; later replaced by a phase of depression. You may have kidney damage with anuria and uremia. Symptoms of over exposure are: vomiting, drowsiness, difficulty in breathing, convulsions. The lethal dose for humans is about 1.4 ml / kg. The route of entry is inhalation and ingestion.

Toxicological information of the main substances found in the product:

ethanol - CAS: 64-17-5
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg
Test: LC50 - Route: Inhalation - Species: Mouse > 20 mg/l - Duration: 4h

ethanediol - CAS: 107-21-1
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 2000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit 9530 mg/kg

propan-2-ol - CAS: 67-63-0
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat 4710 mg/kg
Test: LD50 - Route: Skin - Species: Rat 12800 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat 76.2 mg/l - Duration: 4h
Test: LD50 - Route: Skin - Species: Rabbit 6290 mg/kg

ethanediol - CAS: 107-21-1
LD50 (RABBIT) ORAL: 5017 MG/KG BW

SECTION 12: Ecological information

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

POE/PAG ID
Not classified for environmental hazards
Based on available data, the classification criteria are not met

propan-2-ol - CAS: 67-63-0
a) Aquatic acute toxicity:
Endpoint: EC0 - Species: Fish 10000 mg/l - Duration h: 48 - Notes: Pimephales promelas
Endpoint: LC50 - Species: Fish > 1400 mg/l - Duration h: 96 - Notes: Lepomis macrochirus
Endpoint: LC50 - Species: Fish 6550 mg/l - Duration h: 96 - Notes: Pimephales promelas

12.2. Persistence and degradability
ethanediol - CAS: 107-21-1
Biodegradability: Readily biodegradable - Test: Solubility in water - Notes: 1000 - 10000 mg/L

12.3. Bioaccumulative potential
ethanol - CAS: 64-17-5

Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.350000-
ethanediol - CAS: 107-21-1
Bioaccumulation: Very low bioaccumulative - Test: Kow - Partition coefficient 1.360000-
propan-2-ol - CAS: 67-63-0
Bioaccumulation: Not bioaccumulative - Test: Kow - Partition coefficient 0.05

12.4. Mobility in soil
ethanediol - CAS: 107-21-1
Mobility in soil: Mobile - Notes: Source: bibliography

12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects
None

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

SECTION 14: Transport information

14.1. UN number

ADR-UN Number:	1993
IATA-UN Number:	1993
IMDG-UN Number:	1993

14.2. UN proper shipping name

ADR-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (ethanol, propan-2-ol)
IATA-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (ethanol, propan-2-ol)
IMDG-Shipping Name:	FLAMMABLE LIQUID, N.O.S. (ethanol, propan-2-ol)

14.3. Transport hazard class(es)

ADR-Class:	3
ADR - Hazard identification number:	30
IATA-Class:	3
IATA-Label:	3
IMDG-Class:	3

14.4. Packing group

ADR-Packing Group:	III
IATA-Packing group:	III
IMDG-Packing group:	III

14.5. Environmental hazards

ADR-Enviromental Pollutant:	No
IMDG-Marine pollutant:	No

14.6. Special precautions for user

ADR-Subsidiary risks:	-
ADR-S.P.:	274 601
ADR-Transport category (Tunnel restriction code):	3 (D/E)
IATA-Passenger Aircraft:	355
IATA-Subsidiary risks:	-
IATA-Cargo Aircraft:	366

IATA-S.P.:	A3
IATA-ERG:	3L
IMDG-EmS:	F-E , S-E
IMDG-Subsidiary risks:	-
IMDG-Stowage and handling:	Category A
IMDG-Segregation:	-

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
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) 2015/830
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)

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 3
Restriction 40
Restrictions related to the substances contained:
No restriction.

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
Product belongs to category: P5c

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:
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H302 Harmful if swallowed.
H336 May cause drowsiness or dizziness.

Hazard class and	Code	Description

hazard category		
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	**Classification procedure**
Flam. Liq. 2, H225	On basis of test data
Acute Tox. 4, H302	Calculation method
Eye Irrit. 2, H319	Calculation method

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.