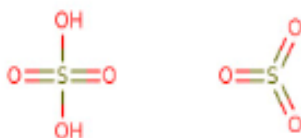


1. General Statement

Oleum 23% is Colourless to yellow-brown liquid. Irritating/pungent odour. Oleum consists of concentrated sulphuric acid with a content of 20 to 65 % free sulphur trioxide, which may increase up to 80 %. Non-combustible substance. Contact with combustible substances can lead to ignition. Caution! Reacts vigorously to explosively with water under formation of sulphuric acid. Hygroscopic. Highly volatile. Acute or chronic health hazards result from the substance.

2. Chemical identification.

Name : Oleum 23%
 CAS number(s) : 8014-95-7
 EC number : 616-954-1
 Molecular formula : $\text{H}_2\text{O}_4\text{S}/\text{O}_3\text{S}$
 Structure :



3. Uses and Benefits

It is Used in Laboratory chemical as Chemical intermediate. For sulfonation and the preparation of mixed acids for nitration.

4. Physical / chemical properties

Property	Value
Physical state :	Liquid
Colour :	Colourless to yellow-brown
Odour :	Irritating/pungent odour
pH :	1.2 (1.8 %)
Melting point :	2 °C
Boiling point :	138 °C
Flash point :	Not applicable
Density :	1900 kg/m ³
Solubility in Water:	Reacts with water. Exothermically soluble in water.

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5. Health Effects

Effect Assessment	Result
Acute toxicity (Oral / inhalation / dermal)	NA
Irritation / corrosion Skin / eye/ respiratory tract	Causes severe skin burns and eye damage.May cause respiratory irritation
Respiratory or skin sensitisation	NA
Toxicity after repeated exposure Oral / inhalation / dermal	NA
Genotoxicity / Mutagenicity	NA
Carcinogenicity	NA
Toxicity for reproduction	NA

6. Environmental Effects

Effect Assessment	Result
Aquatic toxicity	No
Fate and behavior	Result
Persistence and degradability	Biodegradability: not applicable.
Bioaccumulative potential	No test data of component(s) available..

7. Exposure

Human health

Oleum 23% is Causes severe skin burns and eye damage.It May cause respiratory irritation.The exposure must be kept as minimum as possible by the use of appropriate risk management measures suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.Careless handling or accidental spillage of the chemical could result in exposure to potentially hazardous levels of chemicals.Industrial workers should ensure that they follow the advice found in the extended safety data sheet (SDS).

Environment

Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. Spillage shall be quickly collected in the event of an accidental release. More information about release measures and accidental release measures are available in the extended safety data sheet.

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8. Risk Management Recommendations

Human health measures

Organizational	A basic standard of occupational hygiene is recommended. Ensure operatives are well informed of the hazards and trained to minimise exposures. Ensure regular inspection and maintenance of equipment and machines. Handle and store according to the indications of the Safety Data Sheet.	
Protection	Eye protection:	Face shield (EN 166)
	Skin and body protection:	Corrosion-proof clothing (EN 14605)
	Respiratory protection:	Full face mask with filter type B at conc. in air > exposure limit
Engineering controls	Process controls which involve changing the way a job activity or process is done to reduce the risk.Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.	
Environment protective measures		
Avoid release to the environment		

9. First-aid measures

First-aid measures after inhalation: Remove the victim into fresh air. Doctor: administration of corticoid spray. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact: Do not apply (chemical) neutralizing agents without medical advice. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take the victim to hospital.

First-aid measures after eye contact: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.html). Immediately consult a doctor/medical service. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Do not give chemical antidotes.

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10. Fire-fighting measures

Extinguishing media

Suitable extinguishing media: Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant); after consulting a specialist.

Unsuitable extinguishing media :Water (quick-acting extinguisher, reel); risk of puddle expansion. Quick-acting class B foam extinguisher. Water.

Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire:On heating/burning: release of toxic and corrosive gases/vapours (sulphur oxides).

Advice for firefighters

Precautionary measures fire :Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions: Cool tanks/drums with water spray/remove them into safety. When cooling/extinguishing: no water in the substance. Dilute toxic gases with water spray.

11. Accidental release measures

Protective equipment :Gloves (EN 374). Face shield (EN 166). Corrosion-proof suit (EN 14605). Large spills/in enclosed spaces: self-contained breathing apparatus (EN 136 + EN 137). Large spills/in enclosed spaces: gas-tight suit (EN 943).

Environmental precautions: Prevent soil and water pollution. Prevent spreading in sewers.

For containment : Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with a water curtain.

12. Disposal consideration

Regional legislation (waste) : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

13. Handling and storage

Precautions for safe handling:Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply

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with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle and open the container with care. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Never dilute by pouring water to the acid. Always add the acid to the water. Avoid contact of substance with water. Keep the container tightly closed.

Hygiene measures : Observe very strict hygiene - avoid contact.

14. Classification and Labeling

Hazard pictograms (GHS US)

:



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS US)

: P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
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, a doctor.
P312 - Call a POISON CENTER, a doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P363 - Wash contaminated clothing before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

15. Conclusion

Oleum 23% is Colourless to yellow-brown liquid. Irritating/pungent odour. Oleum consists of concentrated sulphuric acid with a content of 20 to 65 % free sulphur trioxide, which may increase up to 80 %. Non-combustible substance. Contact with combustible substances can lead to ignition. Caution! Reacts vigorously to explosively with water under formation of sulphuric acid. Hygroscopic. Highly volatile. Acute or chronic health hazards result from the substance. Care should be taken to avoid releases of these products to sewage, drainage systems and water bodies. The exposure must be kept as minimum as possible by the use of appropriate risk management measures as suitable collective and personal protective equipment, good industrial hygiene practices and risk communication through appropriate training of workers.

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16. Contact Information within company

Manufacturer

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info@aarti-industries.com - www.aarti-industries.com

This GPS safety summary is intended to give general information about the health, safety and environment and not intended to provide in-depth details. To obtain the most accurate and current information, consult the appropriate Safety Data Sheet (SDS) prior to use of the material named herein.