

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

AMMONIUM PERSULFATE

Revision Date: 20-Dec-2012

Revision Number: 10

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Name AMMONIUM PERSULFATE

Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Breaker
Uses Advised Against No information available

Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone §45 - (EC)1272/2008

Europe	112
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute Oral Toxicity	Category 4- H302
Skin Corrosion / irritation	Category 2- H315
Serious Eye Damage / Eye Irritation	Category 2- H319
Respiratory Sensitization	Category 1- H334
Skin Sensitization	Category 1- H317

2. HAZARDS IDENTIFICATION	
Specific Target Organ Toxicity - (Single Exposure)	Category 3- H335
Oxidizing solids.	Category 3- H272

Classification according to EU Directives 67/548/EEC or 1999/45/EC*For the full text of the R-phrases mentioned in this Section, see Section 16***Classification**

O - Oxidizing.
Xn - Harmful.

Risk Phrases

R8 Contact with combustible material may cause fire.
R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R42/43 May cause sensitization by inhalation and skin contact.

Label Elements**Hazard Pictograms****Signal Word****Danger****Hazard Statements**

H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H315 - Causes skin irritation
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317 - May cause an allergic skin reaction

Contains**Substances**

Ammonium persulfate

CAS Number

7727-54-0

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P220 - Keep/Store away from clothing/ combustible materials
 P221 - Take any precaution to avoid mixing with combustibles
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P330 - Rinse mouth
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention

Other Hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	EINECS	CAS Number	PERCENT	EEC Classification	EU - CLP Substance Classification	REACH No.
Ammonium persulfate	231-786-5	7727-54-0	60 - 100%	O; R8 Xn; R22 Xi; R36/37/38 R42/43	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) STOT SE 3 (H335) Ox. Sol. 3 (H272)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES**Description of first aid measures****Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and laundry before reuse.

Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Most Important symptoms and effects, both acute and delayed

May cause eye, skin, and respiratory irritation. May cause allergic skin and respiratory reaction.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically

5. FIREFIGHTING MEASURES**Extinguishing media****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

Special hazards arising from the substance of mixture

Special Exposure Hazards

Oxidizer. May ignite combustibles. Decomposition in fire may produce toxic gases.

Advice for firefighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust.

See Section 12 for additional information

Environmental precautions

Prevent from entering sewers, waterways, or low areas.

Methods and material for containment and cleaning up

Scoop up and remove.

Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Conditions for safe storage, including any incompatibilities

Store away from reducing agents. Store away from combustibles. Store in a cool, dry location. Keep container closed when not in use.

Specific End Use(s)

Exposure Scenario No information available

Other Guidelines No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Substances	EU	UK OEL	Netherlands	France OEL	Germany MAK/TRK
Ammonium persulfate	Not applicable	1 mg/m ³	1 mg/m ³	Not applicable	Not applicable

Substances	Italy	Poland	Hungary	Czech Republic	Denmark
Ammonium persulfate	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Exposure controls**Engineering Controls**

Use in a well ventilated area. Localized ventilation should be used to control dust levels.

Personal protective equipment

Respiratory Protection Dust/mist respirator. (N95, P2/P3)

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

Eye Protection Dust proof goggles.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State: Solid **Color:** White to light straw
Odor: Mild acrid **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ Method	
pH:	5
Melting Point/Range	No data available
Freezing Point/Range (C):	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Evaporation rate	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Specific Gravity	1.98
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

Other information

Molecular Weight 228.22
VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable

Chemical Stability

Stable

Possibility of Hazardous Reactions

Will Not Occur

Conditions to Avoid

Avoid contact with readily oxidizable materials.

Incompatible Materials

Organic matter. All flammables, especially petroleum products, asphalt & other volatile flammables. Strong acids. Avoid halogens. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.

Hazardous Decomposition Products

Toxic fumes. Ammonia. Sulfuric acid.

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Inhalation	May cause respiratory irritation. May cause allergic respiratory reaction.
Eye Contact	May cause eye irritation.
Skin Contact	May cause skin irritation. May cause an allergic skin reaction.
Ingestion	Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity No data available to indicate product or components present at greater than 1% are chronic health hazards.

Substances	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium persulfate	495 mg/kg	520 mg/l	No data available

12. ECOLOGICAL INFORMATION

Toxicity Ecotoxicity Effects

Substances	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ammonium persulfate	No information available	LC50; 103 mg/l (Lepomis macrochirus)	No information available	EC50: 120 mg/L (Daphnia magna)

Persistence and degradability Readily biodegradable

Bioaccumulative potential No information available

Mobility in soil No information available

Results of PBT and vPvB assessment No information available.

Other adverse effects Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

Waste treatment methods Disposal Method Contaminated Packaging

Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number: UN1444,
UN Proper Shipping Name: Ammonium Persulfate
Transport Hazard Class(es): , 5.1
Packing Group: , III
EMS: EmS F-A, S-Q

RID

UN Number: UN1444,
UN Proper Shipping Name: Ammonium Persulfate
Transport Hazard Class(es): , 5.1
Packing Group: , III

ADR

UN Number: UN1444,
UN Proper Shipping Name: Ammonium Persulfate
Transport Hazard Class(es): , 5.1
Packing Group: , III

14. TRANSPORT INFORMATION**IATA/ICAO**

UN Number: UN1444,
UN Proper Shipping Name: Ammonium Persulfate
Transport Hazard Class(es): , 5.1
Packing Group: , III

Special Precautions for User None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****International Inventories**

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

Chemical Safety Assessment

No information available

16. OTHER INFORMATION**Full text of R-phrases referred to under Sections 2 and 3**

R8 Contact with combustible material may cause fire.

R22 Harmful if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

R42/43 May cause sensitization by inhalation and skin contact.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 20-Dec-2012

Revision Note Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet