

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 14.11.2012

Revision: 14.11.2012

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

- **Product identifier**
- **Trade name:** APS
- **Article number:** 20-3001-25
- **CAS Number:**
7727-54-0
- **EC number:**
231-786-5
- **Index number:**
016-060-00-6
- **Registration number** 01-2119495973-19
- **Relevant identified uses of the substance or mixture and uses advised against**
Industrial, professional and consumer use.
- **Sector of Use**
SU0 Other
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU21 Consumer uses: Private households / general public / consumers
- **Product category**
PC0 Other
PC14 Metal surface treatment products, including galvanic and electroplating products
PC37 Water treatment chemicals
PC39 Cosmetics, personal care products
- **Process category**
PROC1 Use in closed process, no likelihood of exposure
PROC2 Use in closed, continuous process with occasional controlled exposure
PROC3 Use in closed batch process (synthesis or formulation)
PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC6 Calendering operations
PROC7 Industrial spraying
PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10 Roller application or brushing
PROC11 Non industrial spraying
PROC13 Treatment of articles by dipping and pouring
PROC14 Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC15 Use as laboratory reagent
PROC22 Potentially closed processing operations with minerals/metals at elevated temperature - Industrial setting
PROC23 Open processing and transfer operations with minerals/metals at elevated temperature
- **Environmental release category**
ERC1 Manufacture of substances
ERC2 Formulation of preparations
ERC6a Industrial use resulting in manufacture of another substance (use of intermediates)
ERC6b Industrial use of reactive processing aids
ERC6d Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
ERC8b Wide dispersive indoor use of reactive substances in open systems
ERC8e Wide dispersive outdoor use of reactive substances in open systems
- **Article category** AC0 Other
- **Application of the substance / the preparation**
The substance has many industrial, professional and consumer applications.

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- **Details of the supplier of the safety data sheet**

- **Manufacturer/Supplier:**

Severn Biotech Ltd.

Unit 2,

Park Lane,

Kidderminster,

Worcestershire.

DY11 6TJ

UK

Tel: 0044 1562 825286

Fax: 0044 1562 825284

email: info@severnbiotech.com

- **Further information obtainable from:** Product safety department.

- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

2 Hazards identification

- **Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R22: Harmful if swallowed.



Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.



Xi; Irritant

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



O; Oxidising

R8: Contact with combustible material may cause fire.

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- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS03, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Ammonium persulphate
- **Hazard statements**
H272 May intensify fire; oxidiser.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P221 Take any precaution to avoid mixing with combustibles.
P260 Do not breathe dust.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P270 Do no eat, drink or smoke when using this product.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**
7727-54-0 Ammonium persulphate
- **Identification number(s)**
- **EC number:** 231-786-5
- **Index number:** 016-060-00-6

4 First aid measures

- **Description of 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.
Immediately remove any clothing soiled by the product.
- **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.
Seek medical treatment in case of complaints.

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- **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Check for and remove any contact lenses.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Call for a doctor immediately.
- **Information for doctor:** Treat symptomatically and supportively.
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Water
- **For safety reasons unsuitable extinguishing agents:** Foam
- **Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.
- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**
Do not use combustible materials such as paper towels to clean up spills.
Ensure adequate ventilation.
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
Do NOT absorb in saw-dust or other combustible absorbents.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Handle with care. Avoid jolting, friction and impact.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Ensure high housekeeping standards to remove build of dust.
Avoid contact with clothing and other combustible materials.
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.
- **Information about fire - and explosion protection:**
Protect from heat.
Rinse contaminated clothes (fire hazard) with plenty of water.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Do not store on combustible materials such as wooden floors or wooden pallets.
- **Information about storage in one common storage facility:**
Store away from flammable substances.
Store away from foodstuffs.
Do not store together with textiles.
- **Further information about storage conditions:**
Store in a banded area.
Protect from humidity and water.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **DNELs**
WORKERS
Acute / short-term exposure - systemic effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 400 mg/kg bw/day

Inhalation DN(M)E
- DNEL (Derived No Effect Level): 590 mg/m³

Acute / short-term exposure - local effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 2.248 mg/cm²

Long-term exposure - systemic effects
Dermal DN(M)EL
- DNEL (Derived No Effect Level): 18.2 mg/kg bw/day

Inhalation DN(M)EL
- DNEL (Derived No Effect Level): 2.06 mg/m³

Long-term exposure - local effects
Dermal DN(M)EL

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- DNEL (Derived No Effect Level): 0.102 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 2.06 mg/m³

GENERAL POPULATION

Acute / short-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 200 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 295 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 30 mg/kg bw/day

Acute / short-term exposure - local effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 1.124 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 295 mg/m³

Long-term exposure - systemic effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 9.1 mg/kg bw/day

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 1.03 mg/m³

Oral DN(M)EL

- DNEL (Derived No Effect Level): 9.1 mg/kg bw/day

Long-term exposure - local effects

Dermal DN(M)EL

- DNEL (Derived No Effect Level): 0.051 mg/cm²

Inhalation DN(M)EL

- DNEL (Derived No Effect Level): 1.03 mg/m³

· PNECs

PNEC aqua (freshwater): 0.0763 mg/L

PNEC aqua (marine water): 0.011 mg/L

PNEC aqua (intermittent releases): 0.763 mg/L

PNEC STP: 3.6 mg/L

PNEC sediment (freshwater): 0.275 mg/kg sediment dw

PNEC sediment (marine water): 0.0396 mg/kg sediment dw

PNEC soil: 0.015 mg/kg soil dw

PNEC oral: No potential for bioaccumulation

· **Additional information:** The lists valid during the making were used as basis.

· Exposure controls

· Personal protective equipment:

Select PPE appropriate for the operations taking place taking into account the product properties.

· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

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Avoid contact with the eyes and skin.

Do not eat, drink, smoke or sniff while working.

Do not breath dust

A safe system of work must be formulated and followed to ensure safe working with this product.

Relevant workers must receive suitable and sufficient training and supervision.

Rinse contaminated clothes (fire hazard) with plenty of water. Do NOT take working clothes home.

· **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.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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.

· **Penetration time of glove material**

The exact break through 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

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Crystalline

Colour: White

· **Odour:** Odourless

· **pH-value at 20 °C:** 1.5

· **Change in condition**

Melting point/Melting range: 120 °C (decomposes)

Boiling point/Boiling range: Decomposes

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Contact with combustible material may cause fire.

· **Ignition temperature:** >600 °C

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20 °C:** 1.26 g/cm³

· **Bulk density at 20 °C:** 950-1050 kg/m³

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- **Solubility in / Miscibility with water at 20 °C:** >1000 g/l
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
Substance is shock sensitive and thermally unstable. Decomposes when heated. May decompose on exposure to air or water.
Risk of fire and explosion on contact with combustible substances and reducing agents.
- **Possibility of hazardous reactions**
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
If in solution, reacts violently with iron, powdered aluminium and silver salts.
The solution in water is a medium strong acid.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Metals, reducing agents, aluminium, copper, finely powdered metals, iron, magnesium, zinc, lead, silver, nickel, combustible/flammable materials.
- **Hazardous decomposition products:**
The substance decomposes on heating producing toxic and corrosive fumes including ammonia, nitrogen oxides and sulfur oxides.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

7727-54-0 Ammonium persulphate

Oral	LD50	700 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	>2.95 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Subacute to chronic toxicity:**
EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: Repeated or prolonged inhalation exposure may cause asthma. Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged contact may cause skin sensitisation. May cause general allergic reaction, like urticaria or shock.
- **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
ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK: Evaporation at 20 °C is negligible; a harmful concentration of airborne particles

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can, however, be reached quickly on spraying or when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE: The substance is irritating to the eyes, the skin and the respiratory tract. Inhalation of dust may cause asthma-like reactions.

Anyone who has shown symptoms of asthma due to this substance should avoid all further contact. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

7727-54-0 Ammonium persulphate	
EC50	120 mg/kg (daphnia)

- **Persistence and degradability** No further relevant information available.

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** Product is not expected to bioaccumulate.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

Never add other substances or combustible waste to product residues.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:**

Do not mix with other waste streams.

Container remains hazardous when empty. Continue to observe all precautions.

Disposal must be made according to official regulations.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	1444
· UN proper shipping name	
· ADR	1444 AMMONIUM PERSULPHATE
· IMDG, IATA	AMMONIUM PERSULPHATE
· Transport hazard class(es)	
· ADR, IMDG, IATA	
	
· Class	5.1 Oxidising substances.
· Label	5.1
· Packing group	
· ADR, IMDG, IATA	III
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Oxidising substances.
· Danger code (Kemler):	50
· EMS Number:	F-A,S-Q
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN1444, AMMONIUM PERSULPHATE, 5.1, III

15 Regulatory information

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

· **Department issuing MSDS:** Product safety department.