



## Section 1: Identification of the Material and Supplier

**Product Name:** Acid-Flo

**Other Names:** Nitric acid, sulphamic acid mixture.

**Proper shipping name (ADG Code):** Corrosive liquid, n.o.s.  
(Contains 13 % nitric acid, < 5 % sulphamic acid)

**Recommended use:** As an acid detergent. Use as directed on the product label.

**Supplier:** DASCO Pty. Ltd.,  
ABN: 14 004 581 113  
24 - 26 Helen Street,  
HEIDELBERG HEIGHTS VIC 3081  
Tel: (03) 9459 7004 (business hours)  
Fax: (03) 9459 9200

**Emergency Phone Numbers:**  
Transport/Fire Emergency: 000 (Emergency services)  
Medical Emergency: 131126 (Poisons Information Centre)

## Section 2: Hazards Identification

Classified as hazardous according to criteria of Worksafe Australia.

Dangerous goods.

**Risk Phrases:** R: 34 Causes burns.

**Safety Phrases:** S:(1/2) Keep locked up and out of the reach of children.  
S: 23 Do not breathe vapour.  
S: 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S: 36 Wear suitable protective clothing.  
S: 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

## Section 3: Composition/Information on Ingredients

|                     |             |           |
|---------------------|-------------|-----------|
| <b>Ingredients:</b> |             |           |
| Nitric acid         | [7697-37-2] | 10 - 30 % |
| Sulphamic acid      | [5329-14-6] | < 10 %    |
| Surfactant          |             | < 10 %    |
| Other ingredients   |             | < 10 %    |
| Water               | [7732-18-5] | to 100 %  |

## Section 4: First Aid Measures

For advice, contact a Poisons Information Centre (Phone 131 126) or a doctor.

Swallowed: Do not induce vomiting.

Skin: If skin or hair contact occurs, Remove contaminated clothing and flush skin and hair with running water.

Eyes: If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

Inhaled: Remove from exposure, rest and keep warm.

### First Aid facilities:

Mandatory: Eye wash. Hand wash basin.

Recommended: Safety shower if handling industrial quantities.

### Advice to Doctor:

Product is an acid mixture containing up to 13 % nitric acid. Causes burns. Risk of serious damage to eyes. Contact Poisons Information Centre.

### Aggravated medical conditions:

Pre-existing lung disorders or skin disorders.

## Section 5: Fire Fighting Measures

HAZCHEM Code: 2 X

Extinguishant: Water fog or fine water spray.

Risk of violent reaction or explosion: No.

Products of combustion: Water vapour, oxides of nitrogen, oxides of sulphur, oxides of phosphorus.

Protective Equipment: Full protective clothing including breathing apparatus and protective gloves.

## Section 6: Accidental Release Measures

### Emergency Procedures:

Contain.

### For large spills:

Contain spillage using sand or earth. Transfer both liquids and solids to suitable container. Treat residues as for small spillages.

### For small spills:

Neutralise spills by covering liberally with soda ash or lime, if available.  
If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise absorb on inert absorbent, transfer to suitable container and arrange removal by disposals company.

## Section 7: Handling and Storage

### Precautions for safe handling:

Avoid contact with skin and eyes.  
Wear suitable protective clothing.

### Conditions for safe storage:

Store in a cool, well ventilated place, out of reach of children.  
Large quantities should be stored in a bunded dangerous goods store. Store in original container. Keep container tightly closed.  
Keep away from alkalis (including carbonates and bicarbonates), oxidising agents, organic materials, combustible materials, active metals, copper and its alloys.  
Protect from physical damage. Clean up all spills and splashes promptly; avoid secondary accidents.

### Incompatibles:

Alkalis, oxidising agents, organic materials, combustible materials, active metals, copper and alloys.

## Section 8: Exposure Controls/Personal Protection

### National Exposure Standards:

**ES-TWA:** Nitric acid 2 ppm, 5.2 mg/m<sup>3</sup>

**ES-STEL:** Nitric acid 4 ppm, 10 mg/m<sup>3</sup>

**ES-PEAK:** None assigned.

**Notations:** None.

**Biological Limit Values:** No data found.

### Engineering Controls:

Do not use active metals, such as aluminium, zinc, copper or its alloys, or wood/paper products as materials of construction.  
Ensure adequate ventilation (same as outdoors) when using.  
If handling industrial quantities, or if vapour or aerosol risk exists, consider local mechanical exhaust/extraction to keep airborne contamination as low as possible, and at least below the TLV.

### Personal Protective Equipment:

Avoid contact with skin and eyes. Avoid breathing vapour or spray/mist. Personal protection to be selected from those recommended below, as appropriate to mode of use, quantity handled and degree of hazard:-

#### Normal Use:

Eye/face protection  
Gloves, rubber or plastic.

#### Industrial Quantities:

Face shield or safety glasses  
Gloves, rubber or plastic  
Plastic apron, sleeves and boots  
Impervious overalls.

## Section 9: Physical and Chemical Properties

Appearance: Clear, slightly frothing liquid.  
Odour: Slight smell of surfactant and nitric acid.  
pH: Very acid.  
Vapour Pressure: No data.  
Vapour Density: No data.  
Boiling Point: > 100 °C  
Melting Point: No data.  
Volatiles: About 92 %  
Volatile Organic Compounds (VOC): None.  
Evaporation Rate: No data.  
Solubilities: Miscible with water in all proportions.  
Specific Gravity/Density: 1.1 g/mL  
Flash Point: None.  
Flammable Limits: None.  
Dust Explosion: Not applicable.  
Auto-ignition Temperature: No data.

### Other Information:

Very acidic liquid. Will react vigorously or violently with alkalis. Contact with carbonates or bicarbonates will generate carbon dioxide, a simple asphyxiant. Contact with aluminium or zinc may generate hydrogen, a flammable gas. Contact with copper or its alloys may generate brown fumes of nitrogen dioxide, a toxic and corrosive gas. Contact with combustible materials may cause fire. Reaction with organic materials, including wood or paper products, may produce products that are readily ignited or even explosive. Slippery when spilled.

## Section 10: Stability and Reactivity

**Chemical Stability:** Stable under normal conditions.

**Conditions to Avoid:** Incompatible materials.

**Incompatible Materials:** Copper and alloys, active metals, alkalis, organic materials (including wood and paper), other combustible materials.

**Hazardous Decomposition Products:** Oxides of nitrogen, oxides of sulphur, oxides of phosphorus.

**Hazardous Reactions:** Will react vigorously or violently with alkalis. Contact with carbonates or bicarbonates will generate carbon dioxide, a simple asphyxiant. Contact with aluminium or zinc may generate hydrogen, a flammable gas. Contact with copper or its alloys may generate brown fumes of nitrogen dioxide, a toxic and corrosive gas. Contact with combustible materials may cause fire. Reaction with organic materials, including wood or paper products, may produce products that are readily ignited or even explosive.

## Section 11: Toxicological Information

### Health Effects:

No data available for the mixture. Information presented relates to individual ingredients.

|                 |                   |  |
|-----------------|-------------------|--|
| <b>Acute:</b>   | <b>Swallowed:</b> | Corrosive. May cause burns to the lips, mouth, throat and gastrointestinal tract. Other symptoms may include increased salivation, intense thirst, difficulty swallowing, chills, pain and shock. Large doses may be fatal.  |
|                 | <b>Skin:</b>      | Corrosive. May cause yellowish skin discoloration, pain, burns and possibly deep ulceration. Milder exposures may cause skin rash, cold and clammy skin with pale skin colour or cyanosis (bluish colour of the lips and skin).  |
|                 | <b>Eyes:</b>      | Corrosive. May cause immediate pain, redness, severe deep burns. Vapours may also cause irritation and permanent damage to the eyes, chemical conjunctivitis and corneal damage.   |
|                 | <b>Inhaled:</b>   | May cause irritation of the nose and throat, a burning sensation in the nose, throat and lungs, coughing, difficulty breathing, choking.<br>May cause chemical pneumonitis and pulmonary oedema (fluid build-up in the lungs), which may be fatal. Onset of symptoms may be delayed. |
| <b>Chronic:</b> |                   | Long term, low level, exposure to vapours of nitric acid may cause chronic bronchitis, erosion of the teeth and possible lung damage.  |
| <b>LD50:</b>    | Nitric acid       | No data found.   |
|                 | Sulphamic acid    | 3,160 mg/kg oral, rat.   |
| <b>LC50:</b>    | Nitric acid       | 67 ppm/4 hours, rat.   |
| <b>LDLo:</b>    | Nitric acid       | 430 mg/kg oral, human.<br>110 mg/kg unknown route, man.  |

## Section 12: Ecological Information

|   |                             |
|---|-----------------------------|
| <b>Ecotoxicity:</b>                         | Toxic to aquatic organisms. |
| <b>Persistence and degradability:</b>       | No data.                    |
| <b>Mobility:</b>                            | Soluble in water.           |
| <b>Environmental Fate:</b>                  | No data.                    |
| <b>Bioaccumulative potential:</b>           | No data.                    |
| <b>Other adverse environmental effects:</b> | No data.                    |

## Section 13: Disposal Considerations

The generator of any wastes from this product is responsible for its proper classification, transport and disposal.

Consult appropriate local and State regulations.

**Disposal methods and containers:**

Prevent disposal to sewer.

**Special precautions for landfill or incineration:**

Neutralise with soda ash or lime before disposal.

## Section 14: Transport Information

**UN Number:** UN 1760

**UN Proper shipping name:** Corrosive liquid, n.o.s.  
(Contains 13 % nitric acid, < 5 % sulphamic acid)

**Class and subsidiary risk:** 8 Corrosive.

**Packaging group:** II

**Special precautions for user:** Segregate from alkalis, active metals, combustibles, organic materials.

**HAZCHEM Code:** 2 X

**Material for export:** Regulated.  
Refer to **IMO/IMDG** and **IATA/ICAO**.

## Section 15: Regulatory Information

**Poisons (SUSDP):** Schedule 6 (nitric acid > 10 %)

**Dangerous Goods:** Yes. UN 1760 8/II 2 X.

**Carcinogen:**

|  | <b>Australia</b> | <b>IARC</b> | <b>NTP</b> | <b>RTECS</b> |
|--|------------------|-------------|------------|--------------|
|  | No.              | No.         | No.        | No.          |

**Agricultural and Veterinary Chemicals Act:** No data.  
This product is registered with the Australian Pesticides and Veterinary Medicines Authority (**APVMA**).

**Australian Inventory of Chemical Substances (AICS):** Listed.

**Other National/International Regulations:** No data.

## Section 16: Other information

**Date of MSDS update:** September 2009  
Complete review and re-write of all sections.

**Abbreviations:**

NOHSC - National Occupational Health and Safety Commission.  
ACGIH - American Conference of Governmental Industrial Hygienists.  
MAK - Maximum workplace concentration - Germany,  
(*maximale Arbeitsplatzkonzentration*)  
IARC - International Agency for Research on Cancer (France).  
NTP - National Toxicology Program (USA).  
RTECS - Registry of Toxic Effects of Chemical Substances.

**Literature references:**

**Available Sources of Data:**

*National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [2011(2003)] - NOHSC.*  
*Australian Dangerous Goods Code.*  
*Standard for the Uniform Scheduling of Drugs and Poisons - AHMAC.*  
*Exposure Standards for Atmospheric Contaminants in the Occupational Environment [1003]- NOHSC.*  
*List of Designated Hazardous Substances [10005] - NOHSC.*  
*Merck Index - Merck Inc.*  
*Sax's Dangerous Properties of Industrial Materials - Lewis.*  
*Handbook of Toxic and Hazardous Chemicals and Carcinogens - Sittig.*  
*Handbook of Reactive Chemical Hazards - Bretherick.*  
*Hawley's Condensed Chemical Dictionary - Wiley Interscience.*  
*AUSREG's Chemical Data Package for PCs - AUSREG Consultancy.*