

Meguiar's D140 - Wheel Brightener

Motor Active

Chemwatch Hazard Alert Code: 3

Chemwatch: 4835-22

Version No: 6.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 01/09/2015

Print Date: 23/08/2016

L.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|--|
| Product name | Meguiar's D140 - Wheel Brightener |
| Synonyms | Not Available |
| Proper shipping name | AMMONIUM HYDROGEN-DIFLUORIDE SOLUTION (contains ammonium bifluoride) |
| Other means of identification | Not Available |

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

| | |
|--------------------------|---|
| Relevant identified uses | Use according to manufacturer's directions. Automotive. Wheel Cleaner. |
|--------------------------|---|

Details of the supplier of the safety data sheet

| | | |
|-------------------------|---|--|
| Registered company name | Motor Active | Meguiars |
| Address | 35 Slough Business Park, Holker Street Silverwater NSW 2128 Australia | 17991 Mitchell South Irvine CA 92714 United States |
| Telephone | +61 2 9737 9422 1800 350 622 | +1 949 752 8000 +1 800 347 5700 |
| Fax | +61 2 9737 9414 | +1 949 752 5784 |
| Website | www.motoractive.com.au | https://www.meguiars.com/ |
| Email | andrew.spira@motoractive.com.au | Not Available |

Emergency telephone number

| | | |
|-----------------------------------|---|---------------|
| Association / Organisation | MotorActive | Not Available |
| Emergency telephone numbers | +61 2 9737 9422 (For General Information Monday to Friday 8:30am to 5:pm) | Not Available |
| Other emergency telephone numbers | 13 11 26 (In Case of Emergency contact: Poison Information Hotline) | Not Available |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.


CHEMWATCH HAZARD RATINGS

| | Min | Max | |
|--------------|-----|-----|--|
| Flammability | 0 | | |
| Toxicity | 3 | | |
| Body Contact | 3 | | |
| Reactivity | 1 | | |
| Chronic | 0 | | |

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

| | |
|--------------------|---|
| Poisons Schedule | S6 |
| Classification [1] | Metal Corrosion Category 1, Acute Toxicity (Oral) Category 3, Skin Corrosion/Irritation Category 1B, Serious Eye Damage Category 1, Acute Aquatic Hazard Category 2 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

Label elements

| | |
|--------------------|---|
| GHS label elements |  |
|--------------------|---|

| | |
|-------------|---------------|
| SIGNAL WORD | DANGER |
|-------------|---------------|

Hazard statement(s)

Meguiar's D140 - Wheel Brightener

| | |
|------|--|
| H290 | May be corrosive to metals. |
| H301 | Toxic if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H401 | Toxic to aquatic life |

Precautionary statement(s) Prevention

| | |
|------|--|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P234 | Keep only in original container. |
| P273 | Avoid release to the environment. |

Precautionary statement(s) Response

| | |
|----------------|--|
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |

Precautionary statement(s) Storage

| | |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

Precautionary statement(s) Disposal

| | |
|------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---|

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|---------------|-----------|-----------------------------------|
| 1341-49-7 | 5-10 | <u>ammonium bifluoride</u> |
| Not Available | 1-5 | ethoxylated alcohol, trade secret |
| 77-92-9 | 1-5 | <u>citric acid</u> |
| Not Available | 1-5 | quaternary ammonium compounds |
| 57-55-6 | 0.5-1.5 | <u>propylene glycol</u> |
| 12125-01-8 | 0.1-1 | <u>ammonium fluoride</u> |
| 7732-18-5 | 70-90 | <u>water</u> |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

| | |
|--------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If there is evidence of severe skin irritation or skin burns:</p> <ul style="list-style-type: none"> ▶ Avoid further contact. Immediately remove contaminated clothing, including footwear. ▶ Flush skin under running water for 15 minutes. ▶ Avoiding contamination of the hands, massage calcium gluconate gel into affected areas, pay particular attention to creases in skin. ▶ Contact the Poisons Information Centre. ▶ Continue gel application for at least 15 minutes after burning sensation ceases. ▶ If pain recurs, repeat application of calcium gluconate gel or apply every 20 minutes. ▶ If no gel is available, continue washing for at least 15 minutes, using soap if available. If patient is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth. ▶ Transport to hospital, or doctor, urgently. |
| Inhalation | <p>For massive exposures:</p> <ul style="list-style-type: none"> ▶ If dusts, vapours, aerosols, fumes or combustion products are inhaled, remove from contaminated area. ▶ Lay patient down. ▶ Keep warm and rested. |

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| | <ul style="list-style-type: none"> ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ If victim is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth. ▶ Transport to hospital, or doctor, urgently. |
| Ingestion | <ul style="list-style-type: none"> ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Transport to hospital or doctor without delay. |

Indication of any immediate medical attention and special treatment needed

for corrosives:

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema .
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ Where eyes have been exposed, flush immediately with water and continue to irrigate with normal saline during transport to hospital.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Skin burns should be covered with dry, sterile bandages, following decontamination.
- ▶ **DO NOT attempt neutralisation as exothermic reaction may occur.**

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Consider endoscopy to evaluate oral injury.
- ▶ Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

Special hazards arising from the substrate or mixture**Fire Incompatibility**

- ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Advice for firefighters**Fire Fighting**

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Use fire fighting procedures suitable for surrounding area.
- ▶ **Do not approach containers suspected to be hot.**
- ▶ Cool fire exposed containers with water spray from a protected location.
- ▶ If safe to do so, remove containers from path of fire.
- ▶ Equipment should be thoroughly decontaminated after use.

Fire/Explosion Hazard

- ▶ Non combustible.
 - ▶ Not considered a significant fire risk, however containers may burn.
- Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂) hydrogen fluoride, nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material. May emit corrosive fumes.

SECTION 6 ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

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See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by any means available, spillage from entering drains or water course. ▶ Consider evacuation (or protect in place). ▶ Stop leak if safe to do so. ▶ Contain spill with sand, earth or vermiculite. ▶ Collect recoverable product into labelled containers for recycling. ▶ Neutralise/decontaminate residue (see Section 13 for specific agent). ▶ Collect solid residues and seal in labelled drums for disposal. ▶ Wash area and prevent runoff into drains. ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. ▶ If contamination of drains or waterways occurs, advise emergency services. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Avoid contact with moisture. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <ul style="list-style-type: none"> ▶ Contact with acids produces toxic fumes ▶ Avoid reaction with oxidising agents |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|---------------------|---|--|---------------|---------------|---------------|
| Australia Exposure Standards | ammonium bifluoride | Fluorides (as F) | 2.5 mg/m ³ | Not Available | Not Available | Not Available |
| Australia Exposure Standards | propylene glycol | Propane-1,2-diol total: (vapour & particulates) / Propane-1,2-diol: particulates only | 474 mg/m ³ / 10 mg/m ³ / 150 ppm | Not Available | Not Available | Not Available |
| Australia Exposure Standards | ammonium fluoride | Fluorides (as F) | 2.5 mg/m ³ | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------|---------------|--------|--------|--------|
|------------|---------------|--------|--------|--------|

Continued...

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| | | | | |
|---------------------|---|------------|------------|------------|
| ammonium bifluoride | Ammonium hydrogen fluoride; (Ammonium bifluoride) | 11 mg/m3 | 130 mg/m3 | 750 mg/m3 |
| citric acid | Citric acid | 0.37 mg/m3 | 4 mg/m3 | 590 mg/m3 |
| propylene glycol | Polypropylene glycols | 30 mg/m3 | 80 mg/m3 | 480 mg/m3 |
| propylene glycol | Propylene glycol; (1,2-Propanediol) | 30 mg/m3 | 1300 mg/m3 | 7900 mg/m3 |
| ammonium fluoride | Ammonium fluoride | 15 mg/m3 | 160 mg/m3 | 980 mg/m3 |

| Ingredient | Original IDLH | Revised IDLH |
|-----------------------------------|---------------|---------------|
| ammonium bifluoride | 500 mg/m3 | 250 mg/m3 |
| ethoxylated alcohol, trade secret | Not Available | Not Available |
| citric acid | Not Available | Not Available |
| quatary ammonium compounds | Not Available | Not Available |
| propylene glycol | Not Available | Not Available |
| ammonium fluoride | 500 mg/m3 | 250 mg/m3 |
| water | Not Available | Not Available |

MATERIAL DATA

Exposure controls

| Appropriate engineering controls | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> | | | | | | | | | | | | | | | | | | | |
|---|--|----------------------|------------|--|-----------------------------|---|----------------------------|--|----------------------------|---|------------------------------|------------------------|------------------------|---|---------------------------------|--|----------------------------------|----------------------------------|-------------------------------|---|
| | <table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p> | Type of Contaminant: | Air Speed: | solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min) | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion) | 2.5-10 m/s (500-2000 f/min.) | Lower end of the range | Upper end of the range | 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity | 3: Intermittent, low production. | 3: High production, heavy use | 4: Large hood or large air mass in motion |
| Type of Contaminant: | Air Speed: | | | | | | | | | | | | | | | | | | | |
| solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min) | | | | | | | | | | | | | | | | | | | |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | | | | | | | | | | | | | | | | | | | |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | | | | | | | | | | | | | | | | | | | |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion) | 2.5-10 m/s (500-2000 f/min.) | | | | | | | | | | | | | | | | | | | |
| Lower end of the range | Upper end of the range | | | | | | | | | | | | | | | | | | | |
| 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | | | | | | | | | | | | | | | | | | | |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity | | | | | | | | | | | | | | | | | | | |
| 3: Intermittent, low production. | 3: High production, heavy use | | | | | | | | | | | | | | | | | | | |
| 4: Large hood or large air mass in motion | 4: Small hood-local control only | | | | | | | | | | | | | | | | | | | |
| Personal protection |  | | | | | | | | | | | | | | | | | | | |
| Eye and face protection | <ul style="list-style-type: none"> Chemical goggles. Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent] | | | | | | | | | | | | | | | | | | | |
| Skin protection | See Hand protection below | | | | | | | | | | | | | | | | | | | |
| Hands/feet protection | <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final</p> | | | | | | | | | | | | | | | | | | | |

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| | <p>choice.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> ▶ frequency and duration of contact, ▶ chemical resistance of glove material, ▶ glove thickness and ▶ dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> ▶ When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. ▶ When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. ▶ Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. ▶ Contaminated gloves should be replaced. <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. ▶ Eyewash unit. ▶ Ensure there is ready access to a safety shower. |
| Thermal hazards | Not Available |

Recommended material(s)**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material | CPI |
|----------------|----------|
| NEOPRENE | A |
| NATURAL RUBBER | C |
| ##ammonium | fluoride |

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 5 x ES | A-AUS / Class 1 P2 | - | A-PAPR-AUS / Class 1 P2 |
| up to 25 x ES | Air-line* | A-2 P2 | A-PAPR-2 P2 |
| up to 50 x ES | - | A-3 P2 | - |
| 50+ x ES | - | Air-line** | - |

* - Continuous-flow; ** - Continuous-flow or positive pressure demand

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| | | | |
|---|---|--|------------------|
| Appearance | Water-thin purple liquid with a sweet odour; miscible with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.04 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Applicable |
| pH (as supplied) | 4.5-5.5 | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | 1 cps |
| Initial boiling point and boiling range (°C) | 99 | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | >93 | Taste | Not Available |
| Evaporation rate | <1 BuAC = 1 | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | VOC = 1% (by wt) |

Meguiar's D140 - Wheel Brightener

| | | | |
|---------------------------|---------------|-----------------------|---------------|
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water (g/L) | Miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | >1 | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

| | |
|------------------------------------|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | |
|--------------|---|
| Inhaled | <p>The material is not thought to produce adverse health effects following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort.</p> <p>Even brief exposure to high concentrations of inorganic fluoride may cause sore throat, chest pains, pulmonary oedema, and in rare cases irreparable damage to the lungs, and death</p> <p>A single acute over-exposure may cause nose bleed. Pre-existing respiratory conditions such as emphysema, bronchitis may be aggravated by exposure. Occupational asthma may result from exposure.</p> |
| Ingestion | <p>Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>The very bitter taste is likely to give early warning of accidental ingestion. Concentrated solutions of many cationics may cause corrosive damage to mucous membranes and the oesophagus. Nausea and vomiting (sometimes bloody) may follow ingestion. Serious exposures may produce an immediate burning sensation of the mouth, throat and abdomen with profuse salivation, ulceration of mucous membranes, signs of circulatory shock (hypotension, laboured breathing, and cyanosis) and a feeling of apprehension, restlessness, confusion and weakness. Weak convulsive movements may precede central nervous system depression. Erosion, ulceration, and petechial haemorrhage may occur through the small intestine with glottic, brain and pulmonary oedema. Death may result from asphyxiation due to paralysis of the muscles of respiration or cardiovascular collapse. Fatal poisoning may arise even when the only pathological signs are visceral congestion, swallowing, mild pulmonary oedema or varying signs of gastrointestinal irritation. Individuals who survive a period of severe hypertension may develop kidney failure. Cloudy swelling, patchy necrosis and fatty infiltration in such visceral organs as the heart, liver and kidneys shows at death.</p> <p>Rats fed repeatedly on a similar material (a C12-C16 alkyl derivative), over several weeks, died of inanition associated with chronic diarrhoea; at autopsy the only lesion found was focal haemorrhagic necrosis of the gastric mucosa. Repeated administration of 0.5% in the diet was lethal to rats, while 25 mg/kg was lethal to dogs; toxic signs in dogs included conditioned salivation, vomiting, enteritis, pulmonary haemorrhage and inflammation and sloughing of the mucosa.</p> |
| Skin Contact | <p>The material can produce chemical burns following direct contact with the skin.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The skin is readily penetrated by the fluoride ion causing liquefaction necrosis of the soft tissues and decalcification and corrosion of bone. Healing is delayed and necrotic changes may continue to occur and spread beneath a layer of tough coagulated skin.</p> <p>Percutaneous absorption of pure liquefied hydrogen fluoride gas produced severe hypocalcaemia, multiple attacks of ventricular fibrillation, and death 9.5 hours after exposure. Skin contact with hydrogen fluoride or solutions containing more than 30 percent hydrogen fluoride produces immediate pain; reactions to more dilute solutions may be delayed for many hours. The accompanying pain is excruciating and persistent due to delayed healing.</p> |
| Eye | <p>The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p> <p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p> |
| Chronic | <p>Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population.</p> <p>Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking.</p> <p>There exists limited evidence that shows that skin contact with the material is capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals.</p> <p>Long term exposure to vapour or dust with inorganic fluorides may result in fluorosis, with rheumatic symptoms, stiff joints, mottling of tooth enamel. Other signs may include nausea, vomiting, anorexia, diarrhoea or constipation, weight loss, anaemia, weakness and general ill-health. Polyuria and polydipsia may also occur. Exfoliative dermatitis, atopic dermatitis, stomatitis, gastrointestinal and respiratory allergy, and on occasions, central nervous system involvement have all been described.</p> <p>Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.</p> |

| | | |
|-----------------------------------|---|----------------------|
| Meguiar's D140 - Wheel Brightener | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| ammonium bifluoride | TOXICITY | IRRITATION |
| | Inhalation (rat) LC50: 1276 ppm/1hr*[2] | *[Bayer] |
| | Oral (rat) LD50: 130 mg/kg ^[1] | Eye (-): corrosive* |
| | | Skin (-): corrosive* |

Meguiar's D140 - Wheel Brightener

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

| | |
|---|--|
| AMMONIUM BIFLUORIDE | <p>for acid mists, aerosols, vapours</p> <p>Data from assays for genotoxic activity <i>in vitro</i> suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acid mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events <i>in vivo</i> in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from <5 to > 7 and normally averages 6.2. Furthermore, exposures to low pH <i>in vivo</i> differ from exposures <i>in vitro</i> in that, <i>in vivo</i>, only a portion of the cell surface is subjected to the adverse conditions, so that perturbation of intracellular homeostasis may be maintained more readily than <i>in vitro</i>.</p> <p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation. Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).</p> <p>The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.</p> <p>as fluoride anion</p> |
| CITRIC ACID | <p>for citric acid (and its inorganic citrate salts)</p> <p>Based on many experimental data in animals and on human experience, citric acid is of low acute toxicity. The NOAEL for repeated dose toxicity for rats is 1200 mg/kg/d. The major, reversible (sub)chronic toxic effects seem to be limited to changes in blood chemistry and metal absorption/excretion kinetics. Citric acid is not suspected of being a carcinogen nor a reprotoxic or teratogenic agent. The NOAEL for reproductive toxicity for rats is 2500 mg/kg/d. Further, it is not mutagenic <i>in vitro</i> and <i>in vivo</i>. Also, the sensitising potential is seen as low. In contrast, irritation, in particular of the eyes but also of the respiratory pathways and the skin, is the major toxicological hazard presented by citric acid</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> |
| PROPYLENE GLYCOL | <p>The acute oral toxicity of propylene glycol is very low, and large quantities are required to cause perceptible health damage in humans. Serious toxicity generally occurs only at plasma concentrations over 1 g/L, which requires extremely high intake over a relatively short period of time. It would be nearly impossible to reach toxic levels by consuming foods or supplements, which contain at most 1 g/kg of PG. Cases of propylene glycol poisoning are usually related to either inappropriate intravenous administration or accidental ingestion of large quantities by children. The potential for long-term oral toxicity is also low. Because of its low chronic oral toxicity, propylene glycol was classified by the U. S. Food and Drug Administration as "generally recognized as safe" (GRAS) for use as a direct food additive.</p> <p>Prolonged contact with propylene glycol is essentially non-irritating to the skin. Undiluted propylene glycol is minimally irritating to the eye, and can produce slight transient conjunctivitis (the eye recovers after the exposure is removed). Exposure to mists may cause eye irritation, as well as upper respiratory tract irritation. Inhalation of the propylene glycol vapours appears to present no significant hazard in ordinary applications. However, limited human experience indicates that inhalation of propylene glycol mists could be irritating to some individuals. It is therefore recommended that propylene glycol not be used in applications where inhalation exposure or human eye contact with the spray mists of these materials is likely, such as fogs for theatrical productions or antifreeze solutions for emergency eye wash stations.</p> <p>Propylene glycol is metabolised in the human body into pyruvic acid (a normal part of the glucose-metabolism process, readily converted to energy), acetic acid (handled by ethanol-metabolism), lactic acid (a normal acid generally abundant during digestion), and propionaldehyde (a potentially hazardous substance). Propylene glycol shows no evidence of being a carcinogen or of being genotoxic.</p> <p>Research has suggested that individuals who cannot tolerate propylene glycol probably experience a special form of irritation, but that they only rarely develop allergic contact dermatitis. Other investigators believe that the incidence of allergic contact dermatitis to propylene glycol may be greater than 2% in patients with eczema.</p> <p>One study strongly suggests a connection between airborne concentrations of propylene glycol in houses and development of asthma and allergic reactions, such as rhinitis or hives in children</p> <p>Another study suggested that the concentrations of PGEs (counted as the sum of propylene glycol and glycol ethers) in indoor air, particularly bedroom air, is linked to increased risk of developing numerous respiratory and immune disorders in children, including asthma, hay fever, eczema, and allergies, with increased risk ranging from 50% to 180%. This concentration has been linked to use of water-based paints and water-based system cleansers.</p> <p>Patients with vulvodynia and interstitial cystitis may be especially sensitive to propylene glycol. Women suffering with yeast infections may also notice that some over the counter creams can cause intense burning. Post menopausal women who require the use of an estrogen cream may notice that brand name creams made with propylene glycol often create extreme, uncomfortable burning along the vulva and perianal area. Additionally, some electronic cigarette users who inhale propylene glycol vapor may experience dryness of the throat or shortness of breath. As an alternative, some suppliers will put Vegetable Glycerin in the "e-liquid" for those who are allergic (or have bad reactions) to propylene glycol.</p> <p>Adverse responses to intravenous administration of drugs which use PG as an excipient have been seen in a number of people, particularly with large dosages thereof. Responses may include "hypotension, bradycardia... QRS and T abnormalities on the ECG, arrhythmia, cardiac arrest, serum hyperosmolality, lactic acidosis, and haemolysis". A high percentage (12% to 42%) of directly-injected propylene glycol is eliminated/secreted in urine unaltered depending on dosage, with the remainder appearing in its glucuronide-form. The speed of renal filtration decreases as dosage increases, which may be due to propylene glycol's mild anesthetic / CNS-depressant -properties as an alcohol. In one case, intravenous administration of propylene glycol-suspended nitroglycerin to an elderly man may have induced coma and acidosis.</p> <p>Propylene glycol is an approved food additive for dog food under the category of animal feed and is generally recognized as safe for dogs with an LD50 of 9 mL/kg. The LD50 is higher for most laboratory animals (20 mL/kg)</p> <p>Similarly, propylene glycol is an approved food additive for human food as well. The exception is that it is prohibited for use in food for cats due to links to Heinz body anemia.</p> |
| WATER | <p>No significant acute toxicological data identified in literature search.</p> |
| AMMONIUM BIFLUORIDE & CITRIC ACID | <p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p> |
| AMMONIUM BIFLUORIDE & PROPYLENE GLYCOL | <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> |

Meguiar's D140 - Wheel Brightener

| | | | |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity | ✓ | Carcinogenicity | ⊘ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ⊘ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ⊘ |
| Respiratory or Skin sensitisation | ⊘ | STOT - Repeated Exposure | ⊘ |
| Mutagenicity | ⊘ | Aspiration Hazard | ⊘ |

Legend:
 ✗ – Data available but does not fill the criteria for classification
 ✓ – Data required to make classification available
 ⊘ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| Ingredient | Endpoint | Test Duration (hr) | Species | Value | Source |
|---------------------|----------|--------------------|-------------------------------|-----------------|--------|
| ammonium bifluoride | LC50 | 96 | Fish | 0.068mg/L | 2 |
| ammonium bifluoride | NOEC | 744 | Fish | <0.048mg/L | 2 |
| ammonium bifluoride | EC50 | 48 | Crustacea | 97mg/L | 2 |
| ammonium bifluoride | EC50 | 96 | Crustacea | 10.5mg/L | 2 |
| ammonium bifluoride | EC50 | 96 | Algae or other aquatic plants | 43mg/L | 2 |
| citric acid | EC0 | 72 | Crustacea | <80mg/L | 1 |
| citric acid | EC50 | 96 | Algae or other aquatic plants | 23.29809mg/L | 3 |
| citric acid | LC50 | 96 | Fish | 9.23896mg/L | 3 |
| citric acid | NOEC | 16 | Crustacea | 153mg/L | 4 |
| citric acid | EC50 | 48 | Crustacea | >50mg/L | 2 |
| propylene glycol | EC50 | 384 | Crustacea | 311.145mg/L | 3 |
| propylene glycol | EC50 | 96 | Algae or other aquatic plants | 10905.921mg/L | 3 |
| propylene glycol | EC50 | 48 | Crustacea | >1000mg/L | 4 |
| propylene glycol | LC50 | 96 | Fish | 710mg/L | 4 |
| propylene glycol | NOEC | 168 | Fish | 98mg/L | 4 |
| ammonium fluoride | LC50 | 96 | Fish | >=51- <=340mg/L | 2 |
| ammonium fluoride | NOEC | 672 | Fish | 0.17mg/L | 2 |
| ammonium fluoride | EC50 | 48 | Crustacea | 2.94mg/L | 2 |
| ammonium fluoride | EC50 | 96 | Crustacea | 10.5mg/L | 2 |
| ammonium fluoride | EC50 | 96 | Algae or other aquatic plants | 43mg/L | 2 |
| water | EC50 | 384 | Crustacea | 199.179mg/L | 3 |
| water | EC50 | 96 | Algae or other aquatic plants | 8768.874mg/L | 3 |
| water | LC50 | 96 | Fish | 897.520mg/L | 3 |

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Prevent, by any means available, spillage from entering drains or water courses.

Toxic to aquatic organisms.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------------|-------------------------|------------------|
| citric acid | LOW | LOW |
| propylene glycol | LOW | LOW |
| water | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------------|----------------------|
| citric acid | LOW (LogKOW = -1.64) |
| propylene glycol | LOW (BCF = 1) |
| water | LOW (LogKOW = -1.38) |

Mobility in soil

| Ingredient | Mobility |
|-------------|----------------|
| citric acid | LOW (KOC = 10) |

Continued...

Meguiar's D140 - Wheel Brightener

| | |
|------------------|------------------|
| propylene glycol | HIGH (KOC = 1) |
| water | LOW (KOC = 14.3) |



SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|-------------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material) ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed. ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. |
|-------------------------------------|--|

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|-------------------------|---|
| |   |
| Marine Pollutant | NO |
| HAZCHEM | 2X |

Land transport (ADG)

| | | | | | |
|-------------------------------------|---|--------------------|-----|------------------|-----|
| UN number | 2817 | | | | |
| UN proper shipping name | AMMONIUM HYDROGEN-DIFLUORIDE SOLUTION (contains ammonium bifluoride) | | | | |
| Transport hazard class(es) | <table border="0"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subrisk</td> <td>6.1</td> </tr> </table> | Class | 8 | Subrisk | 6.1 |
| Class | 8 | | | | |
| Subrisk | 6.1 | | | | |
| Packing group | III | | | | |
| Environmental hazard | Not Applicable | | | | |
| Special precautions for user | <table border="0"> <tr> <td>Special provisions</td> <td>223</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table> | Special provisions | 223 | Limited quantity | 5 L |
| Special provisions | 223 | | | | |
| Limited quantity | 5 L | | | | |

Air transport (ICAO-IATA / DGR)

| | | | | | | | | | | | | | | | |
|---|---|--------------------|--------|---------------------------------|-----|-------------------------------|------|--|-----|--|-----|---|------|--|-----|
| UN number | 2817 | | | | | | | | | | | | | | |
| UN proper shipping name | Ammonium hydrogendifluoride solution (contains ammonium bifluoride) | | | | | | | | | | | | | | |
| Transport hazard class(es) | <table border="0"> <tr> <td>ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>6.1</td> </tr> <tr> <td>ERG Code</td> <td>8P</td> </tr> </table> | ICAO/IATA Class | 8 | ICAO / IATA Subrisk | 6.1 | ERG Code | 8P | | | | | | | | |
| ICAO/IATA Class | 8 | | | | | | | | | | | | | | |
| ICAO / IATA Subrisk | 6.1 | | | | | | | | | | | | | | |
| ERG Code | 8P | | | | | | | | | | | | | | |
| Packing group | III | | | | | | | | | | | | | | |
| Environmental hazard | Not Applicable | | | | | | | | | | | | | | |
| Special precautions for user | <table border="0"> <tr> <td>Special provisions</td> <td>A3A803</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>856</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>60 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>852</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>5 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y841</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>1 L</td> </tr> </table> | Special provisions | A3A803 | Cargo Only Packing Instructions | 856 | Cargo Only Maximum Qty / Pack | 60 L | Passenger and Cargo Packing Instructions | 852 | Passenger and Cargo Maximum Qty / Pack | 5 L | Passenger and Cargo Limited Quantity Packing Instructions | Y841 | Passenger and Cargo Limited Maximum Qty / Pack | 1 L |
| Special provisions | A3A803 | | | | | | | | | | | | | | |
| Cargo Only Packing Instructions | 856 | | | | | | | | | | | | | | |
| Cargo Only Maximum Qty / Pack | 60 L | | | | | | | | | | | | | | |
| Passenger and Cargo Packing Instructions | 852 | | | | | | | | | | | | | | |
| Passenger and Cargo Maximum Qty / Pack | 5 L | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Quantity Packing Instructions | Y841 | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Maximum Qty / Pack | 1 L | | | | | | | | | | | | | | |

Sea transport (IMDG-Code / GGVSee)

| | | | | | |
|-----------------------------------|---|------------|---|--------------|-----|
| UN number | 2817 | | | | |
| UN proper shipping name | AMMONIUM HYDROGEN-DIFLUORIDE SOLUTION (contains ammonium bifluoride) | | | | |
| Transport hazard class(es) | <table border="0"> <tr> <td>IMDG Class</td> <td>8</td> </tr> <tr> <td>IMDG Subrisk</td> <td>6.1</td> </tr> </table> | IMDG Class | 8 | IMDG Subrisk | 6.1 |
| IMDG Class | 8 | | | | |
| IMDG Subrisk | 6.1 | | | | |

Meguiar's D140 - Wheel Brightener

| | |
|-------------------------------------|--------------------------|
| Packing group | III |
| Environmental hazard | Not Applicable |
| Special precautions for user | EMS Number F-A, S-B |
| | Special provisions 223 |
| | Limited Quantities 5 L |

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture****AMMONIUM BIFLUORIDE(1341-49-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

| | |
|--|---|
| Australia Exposure Standards | Australia Inventory of Chemical Substances (AICS) |
| Australia Hazardous Substances Information System - Consolidated Lists | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |

CITRIC ACID(77-92-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|--|---|
| Australia Hazardous Substances Information System - Consolidated Lists | Australia Inventory of Chemical Substances (AICS) |
|--|---|

PROPYLENE GLYCOL(57-55-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|--|---|
| Australia Exposure Standards | Australia Inventory of Chemical Substances (AICS) |
| Australia Hazardous Substances Information System - Consolidated Lists | |

AMMONIUM FLUORIDE(12125-01-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|--|---|
| Australia Exposure Standards | Australia Inventory of Chemical Substances (AICS) |
| Australia Hazardous Substances Information System - Consolidated Lists | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|---|--|
| Australia Inventory of Chemical Substances (AICS) | |
|---|--|

| National Inventory | Status |
|-------------------------------|--|
| Australia - AICS | Y |
| Canada - DSL | Y |
| Canada - NDSL | N (ammonium fluoride; propylene glycol; ammonium bifluoride; citric acid; water) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | N (water) |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | Y |
| USA - TSCA | Y |
| Legend: | Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

SECTION 16 OTHER INFORMATION**Other information****Ingredients with multiple cas numbers**

| Name | CAS No |
|-------------|---|
| citric acid | 77-92-9, 1192555-95-5, 12262-73-6, 136108-93-5, 245654-34-6, 43136-35-2, 623158-96-3, 856568-15-5, 878903-72-1, 890704-54-8, 896506-46-0, 906507-37-7 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

Continued...

Meguiar's D140 - Wheel Brightener

OSF: Odour Safety Factor
NOAEL: No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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