

## 3,5-Difluoro-2-hydroxyphenacyl bromide

### Apollo Scientific

Chemwatch Hazard Alert Code: 3

Part Number: PC49202

Version No: 1.1

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Issue Date: 16/05/2022

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S.REACH.GBR.EN

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

### 1.1. Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | 3,5-Difluoro-2-hydroxyphenacyl bromide  |
| Chemical Name                 | 3,5-DIFLUORO-2-HYDROXYPHENACYL BROMIDE  |
| Synonyms                      | Not Available                           |
| Proper shipping name          | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. |
| Chemical formula              | Not Available                           |
| Other means of identification | Not Available                           |
| CAS number                    | 1192815-24-9*                           |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                          |  |
|--------------------------|--|
| Relevant identified uses | Not Available                                    |
| Uses advised against     | No specific uses advised against are identified. |

### 1.3. Details of the manufacturer or supplier of the safety data sheet

|                         |   |
|-------------------------|---|
| Registered company name | Apollo Scientific   |
| Address                 | Whitefield Road, Bredbury SK62QR United Kingdom                                     |
| Telephone               | 01614060505   |
| Fax                     | 0161 406 0506   |
| Website                 | <a href="http://www.apolloscientific.co.uk/">http://www.apolloscientific.co.uk/</a> |
| Email                   | sales@apolloscientific.co.uk  |

### 1.4. Emergency telephone number

|                                   |               |
|-----------------------------------|---------------|
| Association / Organisation        | Not Available |
| Emergency telephone numbers       | Not Available |
| Other emergency telephone numbers | Not Available |

## SECTION 2 Hazards identification

### 2.1. Classification of the substance or mixture

|   |  |
|---|--|
| Classification according to regulation (EC) No 1272/2008 [CLP] and amendments [1] | H314 - Skin Corrosion/Irritation Category 1B, H312 - Acute Toxicity (Dermal) Category 4, H318 - Serious Eye Damage/Eye Irritation Category 1, H332 - Acute Toxicity (Inhalation) Category 4, H302 - Acute Toxicity (Oral) Category 4 |
|---|--|

**3,5-Difluoro-2-hydroxyphenacyl bromide**

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

**2.2. Label elements**

|                            |               |
|----------------------------|---------------|
| <b>Hazard pictogram(s)</b> |               |
| <b>Signal word</b>         | <b>Danger</b> |

**Hazard statement(s)**

|             |  |
|-------------|--|
| <b>H314</b> | Causes severe skin burns and eye damage. |
| <b>H312</b> | Harmful in contact with skin.            |
| <b>H332</b> | Harmful if inhaled.                      |
| <b>H302</b> | Harmful if swallowed.                    |

**Supplementary statement(s)**

Not Applicable

**Precautionary statement(s) Prevention**

|             |  |
|-------------|--|
| <b>P260</b> | Do not breathe dust/fume.  |
| <b>P264</b> | Wash all exposed external body areas thoroughly after handling.                  |
| <b>P271</b> | Use only outdoors or in a well-ventilated area.                                  |
| <b>P280</b> | Wear protective gloves, protective clothing, eye protection and face protection. |
| <b>P270</b> | Do not eat, drink or smoke when using this product.                              |

**Precautionary statement(s) Response**

|                       |  |
|-----------------------|--|
| <b>P301+P330+P331</b> | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| <b>P303+P361+P353</b> | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].                         |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>P310</b>           | Immediately call a POISON CENTER/doctor/physician/first aider.   |
| <b>P363</b>           | Wash contaminated clothing before reuse.   |
| <b>P301+P312</b>      | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.  |
| <b>P302+P352</b>      | IF ON SKIN: Wash with plenty of water.   |
| <b>P304+P340</b>      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| <b>P362+P364</b>      | Take off contaminated clothing and wash it before reuse.   |

**Precautionary statement(s) Storage**

|             |                  |
|-------------|------------------|
| <b>P405</b> | Store locked up. |
|-------------|------------------|

**Precautionary statement(s) Disposal**

|             |  |
|-------------|--|
| <b>P501</b> | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|-------------|--|

**2.3. Other hazards**

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

**SECTION 3 Composition / information on ingredients**

**3.1.Substances**

| 1. CAS No<br>2.EC No<br>3.Index No<br>4.REACH No | %[weight] | Name          | Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | SCL / M-Factor | Nanoform Particle Characteristics |
|--|-----------|---------------|---|----------------|-----------------------------------|
| Not Available                                    | 100       | 3,5-Difluoro- | Not Applicable  | Not            | Not Available                     |

Continued...

## 3,5-Difluoro-2-hydroxyphenacyl bromide

| 1. CAS No<br>2. EC No<br>3. Index No<br>4. REACH No | %[weight] | Name                      | Classification according to regulation (EC) No 1272/2008 [CLP] and amendments | SCL / M-Factor | Nanoform Particle Characteristics |
|---|-----------|---------------------------|---|----------------|-----------------------------------|
|   |           | 2-hydroxyphenacyl bromide |   | Applicable     |                                   |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; \* EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

### 3.2. Mixtures

See 'Information on ingredients' in section 3.1

## SECTION 4 First aid measures

### 4.1. Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ 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.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>  |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ 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.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b><br/>(ICSC13719)</p> |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul>  |

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11

### 4.3. Indication of any immediate medical attention and special treatment needed

For acute or short-term repeated exposures to highly alkaline materials:

- ▶ Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- ▶ Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- ▶ Oxygen is given as indicated.
- ▶ The presence of shock suggests perforation and mandates an intravenous line and fluid administration.
- ▶ Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- ▶ Milk and water are the preferred diluents

Continued...

## 3,5-Difluoro-2-hydroxyphenacyl bromide

No more than 2 glasses of water should be given to an adult.

‣ Neutralising agents should never be given since exothermic heat reaction may compound injury.

\* Catharsis and emesis are absolutely contra-indicated.

\* Activated charcoal does not absorb alkali.

\* Gastric lavage should not be used.

Supportive care involves the following:

‣ Withhold oral feedings initially.

‣ If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.

‣ Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.

‣ Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

‣ Injury should be irrigated for 20-30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology]

## SECTION 5 Firefighting measures

### 5.1. Extinguishing media

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

### 5.2. Special hazards arising from the substrate or mixture

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

### 5.3. Advice for firefighters

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         |   |
| <b>Fire/Explosion Hazard</b> | Combustible. Will burn if ignited.<br>Combustion products include: <ul style="list-style-type: none"> <li>, carbon monoxide (CO)</li> <li>, carbon dioxide (CO<sub>2</sub>)</li> <li>, other pyrolysis products typical of burning organic material.</li> </ul> May emit corrosive fumes. |

## SECTION 6 Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

See section 8

### 6.2. Environmental precautions

See section 12

### 6.3. Methods and material for containment and cleaning up

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>‣ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>‣ Check regularly for spills and leaks.</li> <li>‣ Remove all ignition sources.</li> <li>‣ Clean up all spills immediately.</li> <li>‣ Avoid contact with skin and eyes.</li> <li>‣ Control personal contact with the substance, by using protective equipment.</li> <li>‣ Use dry clean up procedures and avoid generating dust.</li> <li>‣ Place in a suitable, labelled container for waste disposal.</li> </ul> |
| <b>Major Spills</b> |  |

### 6.4. Reference to other sections

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

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

|                                      |   |
|--------------------------------------|---|
| <b>Safe handling</b>                 | <ul style="list-style-type: none"> <li>‣ Avoid all personal contact, including inhalation.</li> <li>‣ Wear protective clothing when risk of exposure occurs.</li> <li>‣ Use in a well-ventilated area.</li> <li>‣ <b>WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.</b></li> <li>‣ Avoid smoking, naked lights or ignition sources.</li> <li>‣ Avoid contact with incompatible materials.</li> <li>‣ When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>‣ Keep containers securely sealed when not in use.</li> <li>‣ Avoid physical damage to containers.</li> <li>‣ Always wash hands with soap and water after handling.</li> <li>‣ Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>‣ Use good occupational work practice.</li> <li>‣ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>‣ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul> |
| <b>Fire and explosion protection</b> | See section 5   |
| <b>Other information</b>             | <ul style="list-style-type: none"> <li>‣ Store in original containers.</li> <li>‣ Keep containers securely sealed.</li> <li>‣ Store in a cool, dry, well-ventilated area.</li> <li>‣ Store away from incompatible materials and foodstuff containers.</li> <li>‣ Protect containers against physical damage and check regularly for leaks.</li> <li>‣ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>‣ <b>DO NOT store near acids, or oxidising agents</b></li> <li>‣ No smoking, naked lights, heat or ignition sources.</li> </ul>   |

### 7.2. Conditions for safe storage, including any incompatibilities

|  |  |
|--|--|
| <b>Suitable container</b>  | <ul style="list-style-type: none"> <li>‣ Lined metal can, lined metal pail/ can.</li> <li>‣ Plastic pail.</li> <li>‣ Polyliner drum.</li> <li>‣ Packing as recommended by manufacturer.</li> <li>‣ Check all containers are clearly labelled and free from leaks.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>‣ Drums and jerricans must be of the non-removable head type.</li> <li>‣ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> <li>‣ Removable head packaging;</li> <li>‣ Cans with friction closures and</li> <li>‣ low pressure tubes and cartridges</li> </ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p> |
| <b>Storage incompatibility</b>   | <ul style="list-style-type: none"> <li>‣ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> <li>‣ Avoid reaction with oxidising agents</li> <li>‣ Store at 2-8°C</li> <li>‣ Lachrymatory</li> <li>‣ Store under argon</li> </ul>   |
| <b>Hazard categories in accordance with Regulation (EC) No 1272/2008</b>   | Not Available  |
| <b>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of</b> | Not Available  |

### 7.3. Specific end use(s)

See section 1.2

## SECTION 8 Exposure controls / personal protection

## 3,5-Difluoro-2-hydroxyphenacyl bromide

## 8.1. Control parameters

| Ingredient    | DNELs<br>Exposure Pattern Worker | PNECs<br>Compartment |
|---------------|----------------------------------|----------------------|
| Not Available | Not Available                    | Not Available        |

\* Values for General Population

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

| Source        | Ingredient    | Material name | TWA           | STEL          | Peak          | Notes         |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Not Available | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available |

Not Applicable

## Emergency Limits


| Ingredient                             | TEEL-1        | TEEL-2        | TEEL-3        |
|--|---------------|---------------|---------------|
| 3,5-Difluoro-2-hydroxyphenacyl bromide | Not Available | Not Available | Not Available |

| Ingredient                             | Original IDLH | Revised IDLH  |
|--|---------------|---------------|
| 3,5-Difluoro-2-hydroxyphenacyl bromide | Not Available | Not Available |

## 8.2. Exposure controls

|  |  |                                  |
|--|--|----------------------------------|
| <b>8.2.1. Appropriate engineering controls</b>   | <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. Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.</p> <p>An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area. 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> |                                  |
|  | Type of Contaminant:   | Air Speed:                       |
|  | solvent, vapours, degreasing etc., evaporating from tank (in still air).   | 0.25-0.5 m/s<br>(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<br>(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<br>(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<br>(500-2000 f/min.)  |
|  | Within each range the appropriate value depends on:  |                                  |
|  | 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   |                                  |
| <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</p> |  |                                  |

Continued...

|   |   |
|---|---|
|   | apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.   |
| <b>8.2.2. Individual protection measures, such as personal protective equipment</b> |    |
| <b>Eye and face protection</b>  | <ul style="list-style-type: none"> <li>▸ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>▸ Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▸ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>▸ Alternatively a gas mask may replace splash goggles and face shields.</li> <li>▸ 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].</li> </ul> |
| <b>Skin protection</b>  | See Hand protection below   |
| <b>Hands/feet protection</b>  | ▸ Elbow length PVC gloves   |
| <b>Body protection</b>  | See Other protection below  |
| <b>Other protection</b>   | <ul style="list-style-type: none"> <li>▸ Overalls.</li> <li>▸ PVC Apron.</li> <li>▸ PVC protective suit may be required if exposure severe.</li> <li>▸ Eyewash unit.</li> <li>▸ Ensure there is ready access to a safety shower.</li> </ul>   |

### Respiratory protection

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

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator |
|------------------------------------|----------------------|----------------------|------------------------|
| up to 10 x ES                      | P1<br>Air-line*      | -<br>-               | PAPR-P1<br>-           |
| up to 50 x ES                      | Air-line**           | P2                   | PAPR-P2                |
| up to 100 x ES                     | -                    | P3                   | -                      |
|                                    |                      | Air-line*            | -                      |
| 100+ x ES                          | -                    | Air-line**           | PAPR-P3                |

\* - Negative pressure demand \*\* - Continuous flow

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(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

### 8.2.3. Environmental exposure controls

See section 12

## SECTION 9 Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|                         |               |  |               |
|-------------------------|---------------|--|---------------|
| <b>Appearance</b>       | Yellow        |  |               |
| <b>Physical state</b>   | Solid         | <b>Relative density (Water = 1)</b>            | Not Available |
| <b>Odour</b>            | Not Available | <b>Partition coefficient n-octanol / water</b> | Not Available |
| <b>Odour threshold</b>  | Not Available | <b>Auto-ignition temperature (°C)</b>          | Not Available |
| <b>pH (as supplied)</b> | Not Available | <b>Decomposition temperature (°C)</b>          | Not Available |

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## 3,5-Difluoro-2-hydroxyphenacyl bromide

|  |               |                                   |                |
|--|---------------|-----------------------------------|----------------|
| Melting point / freezing point (°C)          | 67.1-71.6     | Viscosity (cSt)                   | Not Available  |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol)          | Not Available  |
| Flash point (°C)                             | Not Available | Taste                             | Not Available  |
| Evaporation rate                             | Not Available | Explosive properties              | Not Available  |
| Flammability                                 | Not Available | Oxidising properties              | Not Available  |
| Upper Explosive Limit (%)                    | Not Available | Surface Tension (dyn/cm or mN/m)  | Not Applicable |
| Lower Explosive Limit (%)                    | Not Available | Volatile Component (%vol)         | Not Available  |
| Vapour pressure (kPa)                        | Not Available | Gas group                         | Not Available  |
| Solubility in water                          | Not Available | pH as a solution (1%)             | Not Available  |
| Vapour density (Air = 1)                     | Not Available | VOC g/L                           | Not Available  |
| Nanoform Solubility                          | Not Available | Nanoform Particle Characteristics | Not Available  |
| Particle Size                                | Not Available |                                   |                |

## 9.2. Other information

Not Available

## SECTION 10 Stability and reactivity

|  |  |
|--|--|
| 10.1.Reactivity                          | See section 7.2  |
| 10.2. Chemical stability                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| 10.3. Possibility of hazardous reactions | See section 7.2  |
| 10.4. Conditions to avoid                | See section 7.2  |
| 10.5. Incompatible materials             | See section 7.2  |
| 10.6. Hazardous decomposition products   | See section 5.3  |

## SECTION 11 Toxicological information

## 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 Information on toxicological effects

|              |  |
|--------------|--|
| Inhaled      | <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane.</p>   |
| Ingestion    | <p>Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow.</p> <p>The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p> <p>The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p>  |
| Skin Contact | <p>The material can produce severe chemical burns following direct contact with the skin.</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> |
| Eye          | <p>If applied to the eyes, this material causes severe eye damage.</p> <p>Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.</p> <p>The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p>  |

Continued...



## 3,5-Difluoro-2-hydroxyphenacyl bromide

|                |   |
|----------------|---|
| <b>Chronic</b> | 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. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems.<br>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. |
|----------------|---|

|   |   |                   |
|---|---|-------------------|
| <b>3,5-Difluoro-2-hydroxyphenacyl bromide</b> | <b>TOXICITY</b>   | <b>IRRITATION</b> |
|   | Not Available   | Not Available     |
| <b>Legend:</b>                                | 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 |                   |

|   |   |
|---|---|
| <b>3,5-Difluoro-2-hydroxyphenacyl bromide</b> | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. 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. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. |
|---|---|

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <b>Acute Toxicity</b>                    | ✔ | <b>Carcinogenicity</b>          | ✘ |
| <b>Skin Irritation/Corrosion</b>         | ✔ | <b>Reproductivity</b>           | ✘ |
| <b>Serious Eye Damage/Irritation</b>     | ✔ | <b>STOT - Single Exposure</b>   | ✘ |
| <b>Respiratory or Skin sensitisation</b> | ✘ | <b>STOT - Repeated Exposure</b> | ✘ |
| <b>Mutagenicity</b>                      | ✘ | <b>Aspiration Hazard</b>        | ✘ |

**Legend:** ✘ – Data either not available or does not fill the criteria for classification  
✔ – Data available to make classification

## 11.2 Information on other hazards

### 11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

### 11.2.2. Other information

See Section 11.1

## SECTION 12 Ecological information

### 12.1. Toxicity

| <b>3,5-Difluoro-2-hydroxyphenacyl bromide</b> | <b>Endpoint</b>  | <b>Test Duration (hr)</b> | <b>Species</b> | <b>Value</b>  | <b>Source</b> |
|---|--|---------------------------|----------------|---------------|---------------|
|   | Not Available  | Not Available             | Not Available  | Not Available | Not Available |
| <b>Legend:</b>                                | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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.

**DO NOT** discharge into sewer or waterways.

### 12.2. Persistence and degradability

| <b>Ingredient</b> | <b>Persistence: Water/Soil</b>        | <b>Persistence: Air</b>               |
|-------------------|---------------------------------------|---------------------------------------|
|                   | No Data available for all ingredients | No Data available for all ingredients |

### 12.3. Bioaccumulative potential

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

#### 12.4. Mobility in soil

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

#### 12.5. Results of PBT and vPvB assessment

|                         | P             | B             | T             |
|-------------------------|---------------|---------------|---------------|
| Relevant available data | Not Available | Not Available | Not Available |
| PBT                     | ✗             | ✗             | ✗             |
| vPvB                    | ✗             | ✗             | ✗             |
| PBT Criteria fulfilled? | No            |               |               |
| vPvB                    | No            |               |               |

#### 12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

#### 12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

### SECTION 13 Disposal considerations

#### 13.1. Waste treatment methods

|                              |  |
|------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> <li>▸ Recycle wherever possible.</li> <li>▸ 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.</li> <li>▸ Treat and neutralise at an approved treatment plant.</li> <li>▸ Treatment should involve: Mixing or slurring in water; Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> <li>▸ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |
| Waste treatment options      | Not Available  |
| Sewage disposal options      | Not Available  |

### SECTION 14 Transport information

#### Labels Required

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

#### Land transport (ADR-RID)

|                                  |  |       |   |                 |                |
|----------------------------------|--|-------|---|-----------------|----------------|
| 14.1. UN number or ID number     | 3263   |       |   |                 |                |
| 14.2. UN proper shipping name    | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.  |       |   |                 |                |
| 14.3. Transport hazard class(es) | <table border="1"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subsidiary risk</td> <td>Not Applicable</td> </tr> </table> | Class | 8 | Subsidiary risk | Not Applicable |
| Class                            | 8  |       |   |                 |                |
| Subsidiary risk                  | Not Applicable   |       |   |                 |                |
| 14.4. Packing group              | II   |       |   |                 |                |

## 3,5-Difluoro-2-hydroxyphenacyl bromide

|                                    |                                |       |
|------------------------------------|--------------------------------|-------|
| 14.5. Environmental hazard         | Not Applicable                 |       |
| 14.6. Special precautions for user | Hazard identification (Kemler) | 80    |
|                                    | Classification code            | C8    |
|                                    | Hazard Label                   | 8     |
|                                    | Special provisions             | 274   |
|                                    | Limited quantity               | 1 kg  |
|                                    | Tunnel Restriction Code        | 2 (E) |

## Air transport (ICAO-IATA / DGR)

|                                    |   |                |
|------------------------------------|---|----------------|
| 14.1. UN number                    | 3263  |                |
| 14.2. UN proper shipping name      | Corrosive solid, basic, organic, n.o.s. *                 |                |
| 14.3. Transport hazard class(es)   | ICAO/IATA Class   | 8              |
|                                    | ICAO / IATA Subrisk                                       | Not Applicable |
|                                    | ERG Code  | 8L             |
| 14.4. Packing group                | II  |                |
| 14.5. Environmental hazard         | Not Applicable  |                |
| 14.6. Special precautions for user | Special provisions  | A3 A803        |
|                                    | Cargo Only Packing Instructions                           | 863            |
|                                    | Cargo Only Maximum Qty / Pack                             | 50 kg          |
|                                    | Passenger and Cargo Packing Instructions                  | 859            |
|                                    | Passenger and Cargo Maximum Qty / Pack                    | 15 kg          |
|                                    | Passenger and Cargo Limited Quantity Packing Instructions | Y844           |
|                                    | Passenger and Cargo Limited Maximum Qty / Pack            | 5 kg           |

## Sea transport (IMDG-Code / GGVSee)

|                                    |   |                |
|------------------------------------|---|----------------|
| 14.1. UN number                    | 3263                                    |                |
| 14.2. UN proper shipping name      | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. |                |
| 14.3. Transport hazard class(es)   | IMDG Class                              | 8              |
|                                    | IMDG Subrisk                            | Not Applicable |
| 14.4. Packing group                | II                                      |                |
| 14.5. Environmental hazard         | Not Applicable                          |                |
| 14.6. Special precautions for user | EMS Number                              | F-A, S-B       |
|                                    | Special provisions                      | 274            |
|                                    | Limited Quantities                      | 1 kg           |

## Inland waterways transport (ADN)

|                                  |   |                |
|----------------------------------|---|----------------|
| 14.1. UN number                  | 3263                                    |                |
| 14.2. UN proper shipping name    | CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. |                |
| 14.3. Transport hazard class(es) | 8                                       | Not Applicable |
| 14.4. Packing group              | II                                      |                |
| 14.5. Environmental hazard       | Not Applicable                          |                |

|                                    |                     |        |
|------------------------------------|---------------------|--------|
| 14.6. Special precautions for user | Classification code | C8     |
|                                    | Special provisions  | 274    |
|                                    | Limited quantity    | 1 kg   |
|                                    | Equipment required  | PP, EP |
|                                    | Fire cones number   | 0      |

#### 14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

##### 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name | Group |
|--------------|-------|
|--------------|-------|

##### 14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|--------------|-----------|
|--------------|-----------|

### SECTION 15 Regulatory information

#### 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

#### Information according to 2012/18/EU (Seveso III):

|                 |               |
|-----------------|---------------|
| Seveso Category | Not Available |
|-----------------|---------------|

#### 15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

#### ECHA SUMMARY

Not Applicable

#### National Inventory Status

| National Inventory                              | Status  |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Not Available   |
| Canada - DSL                                    | Not Available   |
| Canada - NDSL                                   | Not Available   |
| China - IECSC                                   | Not Available   |
| Europe - EINEC / ELINCS / NLP                   | Not Available   |
| Japan - ENCS                                    | Not Available   |
| Korea - KECI                                    | Not Available   |
| New Zealand - NZIoC                             | Not Available   |
| Philippines - PICCS                             | Not Available   |
| USA - TSCA                                      | Not Available   |
| Taiwan - TCSI                                   | Not Available   |
| Mexico - INSQ                                   | Not Available   |
| Vietnam - NCI                                   | Not Available   |
| Russia - FBEPH                                  | Not Available   |
| <b>Legend:</b>                                  | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

### SECTION 16 Other information

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 16/05/2022 |
| <b>Initial Date</b>  | 16/05/2022 |

## Full text Risk and Hazard codes

### Other information

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.

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.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

- EN 166 Personal eye-protection
- EN 340 Protective clothing
- EN 374 Protective gloves against chemicals and micro-organisms
- EN 13832 Footwear protecting against chemicals
- EN 133 Respiratory protective devices

### 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
- ES: Exposure Standard
- 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
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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