SAFETY DATA SHEET
(in accordance with Regulation (EU) 2015/830)

116670-Potassium tert-butoxide

Version: 2
Revision date: 20/04/2016
Print date: 20/04/2016
Page 1 of 9

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.
Product Name: Potassium tert-butoxide
Product Code: 116670
Chemical Name: Potassium tert-butoxide
CAS No: 865-47-4
EC No: 212-740-3
Registration No: 01-2119971575-26-XXXX

1.2 Relevant identified uses of the substance and uses advised against.
For manufacturing, processing, laboratory or repacking use only
Uses advised against:
Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.
Company: DC FINE CHEMICALS Ltd.
Address: Hill Top, 88
City: NW11 6DY London (United Kingdom)
Telephone: +44 (20) 7586 6800
Fax: +44 (20) 7504 1701
E-mail: info@dcfinechemicals.com
Web: www.dcfinechemicals.com

1.4 Emergency telephone number: (Only available during office hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the substance.
In accordance with Regulation (EU) No 1272/2008:
Acute Tox. 4 : Harmful if swallowed.
Flam. Sol. 1 : Flammable solid.
Skin Corr. 1A : Causes severe skin burns and eye damage.

2.2 Label elements.
Labelling in accordance with Regulation (EU) No 1272/2008:
Pictograms:

信号词:
危险
H statements:
H228 Flammable solid.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
P statements:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P310 Immediately call a POISON CENTER/doctor.
P370+P378 In case of fire: Use appropriate elements to extinction.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

-Continued on next page.-
EUH014 Reacts violently with water.

Contains:
Potassium tert-butoxide

2.3 Other hazards.
In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.
Chemical Name: Potassium tert-butoxide
CAS No: 865-47-4
CE No: 212-740-3
Registration No: 01-2119971575-26-XXXX

3.2 Mixtures.
Not Applicable.

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.
In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.
If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.
If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.
Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. NEVER use solvents or thinners.

Ingestion.
If accidentally ingested, seek immediate medical attention. Keep calm. NEVER induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed.
Corrosive Product, contact with eyes or skin can cause burns; ingestion or inhalation can cause internal damage, if this occurs immediate medical attention is required.

4.3 Indication of any immediate medical attention and special treatment needed.
In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

The product is Highly inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

5.1 Extinguishing media.
Recommended extinguishing methods.
5.2 Special hazards arising from the substance.

**Special risks.**
Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

**Fire protection equipment.**
According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and gloves.

### SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

Eliminate possible ignition points and ventilate the area. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

The contaminated area should be immediately cleaned with an appropriate de-contaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8. For later elimination of waste, follow the recommendations under section 13.

### SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers.

In the application area, smoking, eating, and drinking must be prohibited. Follow legislation on occupational health and safety.

Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorised persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

Classification and threshold amount of storage in accordance with Annex I to Directive 2012/18/EU (SEVESO III):

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Qualifying quantity (tonnes) for the application of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lower-tier requirements</td>
</tr>
<tr>
<td>O1</td>
<td>OTHER HAZARDS - Substances or mixtures with hazard statement EUH014</td>
<td>100</td>
</tr>
</tbody>
</table>

7.3 Specific end use(s).
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

The product does NOT contain substances with Professional Exposure Environmental Limit Values. The product does NOT contain substances with Biological Limit Values.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

<table>
<thead>
<tr>
<th>Concentration:</th>
<th>100 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses:</td>
<td>For manufacturing, processing, laboratory or repacking use only</td>
</tr>
<tr>
<td>Breathing protection:</td>
<td></td>
</tr>
</tbody>
</table>

**PPE:** Filter mask for protection against gases and particles.

**Characteristics:** «CE» marking, category III. The mask must have a wide field of vision and an anatomically designed form in order to be sealed and watertight.

**CEN standards:** EN 136, EN 140, EN 405

**Maintenance:** Should not be stored in places exposed to high temperatures and damp environments before use. Special attention should be paid to the state of the inhalation and exhalation valves in the face adaptor. Read carefully the manufacturer's instructions regarding the equipment's use and maintenance. Attach the necessary filters to the equipment according to the specific nature of the risk (Particles and aerosols: P1-P2-P3, Gases and vapours: A-B-E-K-AX), changing them as advised by the manufacturer.

**Observations:**

- Filter Type needed: A2

**Eye protection:**

- If the product is handled correctly, no individual protection equipment is necessary.

**Skin protection:**

<table>
<thead>
<tr>
<th>PPE:</th>
<th>Chemical protective clothing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics:</td>
<td>«CE» marking, category III. Clothing should fit properly. The level of protection must be set according to a test parameter called BT (Breakthrough Time), which indicates how long it takes for the chemical to pass through the material.</td>
</tr>
<tr>
<td>CEN standards:</td>
<td>EN 464, EN 340, EN 943-1, EN 943-2, EN ISO 6529, EN ISO 6530, EN 13034</td>
</tr>
<tr>
<td>Maintenance:</td>
<td>In order to guarantee uniform protection, follow the washing and maintenance instructions provided by the manufacturer. The protective clothing’s design should facilitate correct positioning, staying in place without moving for the period of use expected, bearing in mind environmental factors as well as any movement or position the user might adopt while carrying out the activity.</td>
</tr>
<tr>
<td>Observations:</td>
<td>The protective clothing should be cleaned regularly and dried when damp, although it should not be placed too close to a source of heat in order to avoid any sharp changes in temperature.</td>
</tr>
</tbody>
</table>

- Continued on next page.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.
Appearance: Solid
Colour: N.A./N.A.
Odour: N.A./N.A.
Odour threshold: N.A./N.A.
pH: 13 (0.5%, 20ºC)
Melting point: 258 ºC.
Boiling Point: N.A./N.A.
Flash point: - ºC
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): N.A./N.A.
Lower Explosive Limit: N.A./N.A.
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density: N.A./N.A.
Relative density: 1.19 g/cm³
Solubility: N.A./N.A.
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: 483ºC
Decomposition temperature: 300ºC
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A. = Not Available/Not Applicable due to the nature of the product

9.2 Other information.

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.
Reacts violently with water.
If the storage conditions are satisfied, does not produce dangerous reactions.

10.2 Chemical stability.
Unstable in contact with:
- Acids.

10.3 Possibility of hazardous reactions.
Flammable solid.
Neutralization can occur on contact with acids.

10.4 Conditions to avoid.
Avoid the following conditions:
- High temperature.
- Static discharge.
- Contact with incompatible materials.
- Avoid contact with acids.
- Avoid temperatures near or above the flash point. Do not heat closed containers. Avoid direct sunlight and heat, as these may cause a risk of fire.

10.5 Incompatible materials.
Avoid the following materials:
- Acids.
- Explosives materials.
- Toxic materials.
- Oxidizing materials.

10.6 Hazardous decomposition products.
Depending on conditions of use, can be generated the following products:

-Continued on next page.-
- Corrosive vapors or gases.
In case of fire, dangerous decomposition products can be generated, such as carbon monoxide and dioxide and nitrogen fumes and oxides.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.
Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.

Toxicological information.

<table>
<thead>
<tr>
<th>Name</th>
<th>Acute toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type</td>
</tr>
<tr>
<td>Potassium tert-butoxide</td>
<td>Oral</td>
</tr>
<tr>
<td>CAS No: 865-47-4 EC No: 212-740-3</td>
<td>Dermal</td>
</tr>
</tbody>
</table>

a) acute toxicity;
Product classified:
Acute toxicity (Oral), Category 4: Harmful if swallowed.

b) skin corrosion/irritation;
Product classified:
Skin Corrosive, Category 1A: Causes severe skin burns and eye damage.

c) serious eye damage/irritation;
Not conclusive data for classification.

d) respiratory or skin sensitisation;
Not conclusive data for classification.

e) germ cell mutagenicity;
Not conclusive data for classification.

f) carcinogenicity;
Not conclusive data for classification.

g) reproductive toxicity;
Not conclusive data for classification.

h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Not conclusive data for classification.

j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.
No information is available regarding the ecotoxicity.

12.2 Persistence and degradability.
No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potential.
No information is available regarding the bioaccumulation.

-Continued on next page.-
12.4 Mobility in soil.
No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.
No information is available about the results of PBT and vPvB assessment of the product.

12.6 Other adverse effects.
No information is available about other adverse effects for the environment.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.
Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

**Land:** Transport by road: ADR, Transport by rail: RID.
Transport documentation: Consignment note and written instructions

**Sea:** Transport by ship: IMDG.
Transport documentation: Bill of lading

**Air:** Transport by plane: ICAO/IATA.
Transport document: Airway bill.

14.1 UN number.
UN No: UN2921

14.2 UN proper shipping name.
Description: UN 2921, CORROSIVE SOLID, FLAMMABLE, N.O.S. (CONTAINS POTASSIUM TERT-BUTOXIDE), 8 (4.1), PG I, (E)

14.3 Transport hazard class(es).
Class(es): 8

14.4 Packing group.
Packing group: I

14.5 Environmental hazards.
Marine pollutant: No

14.6 Special precautions for user.
Labels: 8, 4.1

Hazard number: 884
ADR LQ: 0

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.
Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-A,S-C
Proceed in accordance with point 6.

-Continued on next page.-
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.
The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

15.1 Safety, health and environmental regulations/legislation specific for the substance.
Product classification according to Annex I of Directive 2012/18/EU (SEVESO III): O1
The product is not affected by Regulation (EU) No 528/2012 concerning the making available on the market and use of biocidal products.
The product is not affected by the procedure established Regulation (EU) No 649/2012, concerning the export and import of dangerous chemicals.

15.2 Chemical safety assessment.
There has been no evaluation a chemical safety assessment of the product.

SECTION 16: OTHER INFORMATION.

Classification codes:
Acute Tox. 4 [Oral] : Acute toxicity (Oral), Category 4
Flam. Sol. 1 : Flammable solid, Category 1
Skin Corr. 1A : Skin Corrosive, Category 1A

Sections changed compared with the previous version:
1,2,3,4,8,9,10,11,14,16

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Labelling in accordance with Directive 67/548/EEC:
Symbols:
- F Highly flammable
- C Corrosive

R Phrases:
R11  Highly flammable.
R14  Reacts violently with water.
R22  Harmful if swallowed.
R35  Causes severe burns.

S Phrases:
S8  Keep container dry.
S16  Keep away from sources of ignition - No smoking.
S26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S43  In case of fire, use ... (indicate in the space the precise type of fire-fighting equipment. If water increases risk, add «Never use water»).
S45  In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S36/37/39  Wear suitable protective clothing, gloves and eye/face protection.

Contains:
Potassium tert-butoxide

Abbreviations and acronyms used:
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CEN: European Committee for Standardization.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:
http://eur-lex.europa.eu/homepage.html
http://echa.europa.eu/


The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.