MATERIAL SAFETY DATA SHEET

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

1.1 Product identifiers

Product name: Testing powder No. 30 Contains Ammonium hydrogen difluoride, potassium hydrogen, phthalate.

Product Code: TP30

Brand: Solmedia Ltd

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

Identified uses Testing Reagent

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: Solmedia Ltd.
- Address of Supplier: Unit 2, Vernon Drive
  Battlefield Enterprise Park
  Shrewsbury
  SY1 3TF
  UK
- Telephone: 0844 80 80 900
- Email: labsupplies@solmedialtd.com

1.4 Emergency telephone number

Emergency Phone # +44 (0)844 80 80 900

SECTION 2: Hazards identification

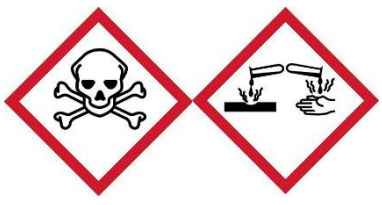
2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3	H301:	Toxic if swallowed
Skin corrosion, Sub-category 1B	H314:	Causes severe skin burns and eye damage
Serious eye damage, Category 1	H318:	Causes serious eye damage

2.2 Label elements

Hazard pictograms:



Signal Word: Danger

Hazard Statements: H301 Toxic if swallowed

H314 Causes severe skin burns and eye damage

Precautionary statements:

Prevention:

P280 Wear eye protection/face protection

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor.

P313 Seek medical advice

Hazardous components which must be listed on the label:

Ammonium hydrogen difluoride

2.3 Other hazards

PBT: This substance is not identified as a PBT substance.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous ingredients:

			Classification (Regulation (EC) No 1272/2008 [CLP]	
Hazardous Components		Amount [%]	Hazard class/ Hazard category	Hazard Statements
Name:	Ammonium hydrogen difluoride	>66%	ACUTE TOX. CAT. 3 SKIN CORR. CAT 1B. EYE DAM. CAT 1.	H301 H314 H318
CAS NO.	1341-49-7			
EC-NO.	215-676-4			
EU REACH-REG. NO.	01-2119489180-38-XXXX			
Name:	Potassium hydrogen phthalate	>33%	n/a	n/a
CAS NO.	877-24-7			
EC-NO.	212-889-4			

SECTION 4: First aid measures

4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. In case of skin reactions, consult a physician. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. If accidentally ingested, seek immediate medical attention, NEVER induce vomiting. Remove victim out of the danger area. In case of inhalation take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration.

After inhalation Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration and contact doctor or medical professional immediately.

In case of skin contact Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5g of calcium gluconate in 85ml of hot distilled water, add 10g glycerol. Allow 5g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several dressings thoroughly moistened with 20% calcium gluconate solution. Medical advice absolutely required.

After eye contact In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of Ingestion Immediately give to drink plenty of water, add calcium (in the form of calcium gluconate or calcium lactate). Caution: In the case of vomiting risk of perforation! Administer more calcium gluconate solution. Laxative: Sodium sulfate (1 tablespoon/1/4l water). Seek medical advice immediately. Ensure that injured persons remain calm and protect them against heat loss. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion
Cough
Shortness of breath
Risk of blindness
Respiratory arrest
Unconsciousness
Shock

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders

4.3 Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Consult a doctor with experience in the treatment of lesions caused by hydrofluoric acid. If a system effect is suspected, monitoring and treatment in an intensive care unit is urgently required. Caution, ventricular fibrillation due to electrolyte imbalance.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media for the surrounding fire should be used.

5.2 Special hazards arising from the substance or mixture

Exposure hazards: Ambient fire may liberate hazardous vapours. May cause evolution of: Hydrogen fluoride, Ammonia, Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes. Supress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Environmental precautions: Do not discharge into drains or rivers.

6.3 Methods and materials for containment and cleaning up

Clean-up procedures: Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover drains, collect, bind and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Reference to other sections: Refer to section 13 of SDS.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling requirements: Observe label precautions. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Store in original container. Keep dry and in a well ventilated area. Keep container tightly closed. Keep locked up or in an area accessible only to qualified or authorised persons. See label for recommended storage temperature.

Risks from decomposition products: see section 10.3

7.3 Specific end use(s)

Specific end use(s): No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No	Value type (Form Exposure)	Control parameters	Basis
Ammonium hydrogen Difluoride	1341-49-7	TWA	2.5mg/m3 (Fluorine)	2000/39/EC
Further information	Indicative 1341-49-7	OELV – 8hrs (TWA)	2.5mg/m3 (Fluorine)	IE OEL
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used, Indictive Occupational Exposure Limit Value.			

8.1. DNEL/PNEC Values

DNEL / PNEC No data available.

8.2 Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protective equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

(Without touching glove's outer surface) to avoid skin contact with this product. Dispose of

Contaminated gloves after use in accordance with applicable laws and good laboratory practices.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Wash and dry hands.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection must be worn if exhaust or ventilation not available. For nuisance exposures use type OV/AG (US) or type ABEK

(EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection:

Goggles recommended during refilling: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Additional Information

Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Control of environmental exposure

Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration. If the product contaminates rivers and lakes or drains inform respective authorities. If material reaches soil inform authorities responsible for such cases.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State:	Solid
Colour:	White
Odour:	Stinging
pH:	2 at 5.7g/l 20°C
Melting point:	126°C
Boiling point/boiling range:	238°C at 1,013 hPa (decomposition)
Vapour pressure:	1 hPa at 20°C
Density:	1.5 g/cm3 at 20°C
Water solubility:	630 g/l at 20°C
Decomposition temperature:	> 230°C

9.2 Other safety information

Other information: Bulk density ca. 750 kg/m3

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Hygroscopic

10.3 Possibility of hazardous reactions

Risk of explosion with halogen-halogen compounds. Generates dangerous gases or fumes in contact with acids, release of hydrogen fluoride.

10.4 Conditions to avoid

Strong heating (decomposition)

10.5 Incompatible materials

Materials to avoid: Quartzes/silicate ceramics, glass, aluminium, iron, zinc, metals

10.6 Hazardous decomposition products

In the event of fire: See section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity:	LD50 (Rat, male and female): 130 mg/kg Method: OECD Test Guideline 401 Symptoms: if ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
Acute inhalation toxicity:	Symptoms: mucosal irritations, cough, shortness of breath Possible damages: damage of respiratory tract
Acute dermal Toxicity:	Symptoms: causes burns

Skin corrosion/irritation

Result: causes burns
Remarks: Causes poorly healing wounds, tissue damage

Serious eye damage/eye irritation

Result: irreversible effects on the eye
Remarks: risk of blindness

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

STOT – single exposure

No data available

STOT – repeated exposure

No data available

Repeated dose toxicity

No data available

Aspiration toxicity

No data available

11.2 Other information

Systemic effects: Convulsions, unconsciousness, cardiac irregularities, respiratory arrest, shock, disturbed electrolyte balance. Chronic uptake results in damage of: liver, kidney, bone marrow.

The following applies to soluble inorganic fluorides in general: may cause irritations to burns in contact with eyes, skin, mucous membranes. Systemic effect: drop in blood calcium level, agitation, spasms, cardiovascular disorders, CNS disorders.

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Other dangerous properties cannot be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Ecotoxicity values: Toxicity to fish

LC100 (Danio rerio (zebra fish)): 562 mg/l

Exposure time: 96h

Remarks: (IUCLID)

LC0 (Danio rerio (zebra fish)): 237 mg/l

Exposure time: 96h

Remarks: (IUCLID)

Toxicity to microorganisms:

EC50 (activated sludge): 2,394 mg/l

Method: OECD Test Guideline 209

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

This product is not identified as a PBT/vPvB substance

12.6 Other adverse effects

Toxic to aquatic organisms. Toxic to soil organisms.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Disposal operations: Leave chemicals in original container and arrange for collection by specialised disposal company. No mixing with other waste. Handle uncleaned containers like the product itself.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

SECTION 14: Transport information

14.1 UN/ID No.:	UN1727
14.2 Proper shipping name:	Ammonium hydrogendifluoride, solid
14.3 Class:	8
14.4 Packing group:	II
14.5 Environmentally hazardous:	--
14.6 Special precautions for use:	No

Sea transport (IMDG)

14.1 UN/ID No.:	UN 1727
14.2 Proper shipping name:	AMMONIUM HYDROGENDIFLUORIDE, SOLID
14.3 Class:	8
14.4 Packing group:	II
14.5 Environmentally hazardous:	--
14.6 Special precautions for use:	Yes
EmS Code:	F-A, S-B
Segregation group:	Acids, Ammonium compounds

Land transport (ADR/RID)

14.1 UN/ID No.:	UN 1727
14.2 Proper shipping name:	AMMONIUM HYDROGENDIFLUORIDE, SOLID
14.3 Class:	8
14.4 Packing group:	II

14.5 Environmentally hazardous: --

SECTION 15: Regulatory information

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

Not applicable.

Seveso III: Directive 2012/18/EU of the European Parliament and of the council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
H2	Acute Toxic	50 t	200 t

Storage class:	6.1 D
Other regulations:	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

SECTION 16: Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.
* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and 3:
H301: Toxic if not swallowed
H314: Causes sever skin burns and eye damage
H318: Causes serious eye damage

Legal disclaimer:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Solmedia Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.