SAFETY DATA SHEET

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

1.1 Product identifier

- Product Name: Stuarts Micrometer Engineers Marking Blue

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

- Use of the substance/mixture: Used in engineering to illustrate contact areas between mated surfaces and to identify hi-spots on bearings etc
- Use advised against: Not for internal use.

1.3 Details of the supplier of the safety data sheet

- Name of Supplier: I.C.S. (Industrial & Consumer Supplies)
- Address of Supplier: The Bull Pen
  Tor-y-Mynydd Farm
  Devauden
  Chepstow
  Gwent
  NP16 6NU
  UK
- Telephone: +44 (0) 1600 860869
- Email: meriel.ics@btconnect.com

1.4 Emergency telephone number

- Emergency Telephone: 07899 761593

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Not Classified
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements

- Symbols: None
- Signal Word: None
- Hazard statements
  None
- Precautionary statements
  None
- Supplemental Hazard information (EU)
  EUH032 - Contact with acids liberates very toxic gas
  EUH210 - Safety data sheet available on request.

2.3 Other hazards

- This product contains <1% respirable crystalline silica, but this is not an inhalable hazard as supplied.
- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1 Substances

SECTION 3: Composition/information on ingredients (....)

3.2 Mixtures

Contains the following hazardous ingredients or ingredients with a workplace exposure limit:

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	REACH Registration Number	WEL /OEL
Kaolin	40 - 70%	1332-58-7	310-194-1	Not Classified	-	Yes
Distillates (petroleum), solvent-dewaxed heavy paraffinic (contains <3% w/w DMSO extract, [IP346])	30 - 40%	64742-65-0	265-169-7	Asp. Tox. 1, H304	-	No
Ammonium iron (3+)hexakis(cyano-C) ferrate(4-)	5 - 10%	25869-00-5	247-304-1	Aquatic Chronic 4, H413; EUH032	01-2119555296 -32-XXXX	No
Quartz (crystalline silica)	< 1%	14808-60-7	238-878-4	Not Classified	-	Yes

SECTION 4: First aid measures

4.1 Description of first aid measures

- Contact with eyes
  If substance has got into eyes, immediately wash out with plenty of water for several minutes
  Irrigate eyes thoroughly whilst lifting eyelids
  Remove contact lenses, if present and easy to do. Continue rinsing.
  If eye irritation persists: Get medical advice/attention.

- Contact with skin
  Take off contaminated clothing and wash it before reuse.
  Gently wash with plenty of soap and water.
  If skin irritation occurs: Get medical advice/attention.

- Ingestion
  Rinse mouth with water (do not swallow)
  Give 200-300mls (half pint) water to drink
  Do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention
  IF exposed or concerned: Get medical advice/attention.

- Inhalation
  If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
  Keep warm and at rest, in a half upright position. Loosen clothing
  Apply artificial respiration only if patient is not breathing but do not use mouth to mouth resuscitation
  If breathing is difficult, oxygen should be given by a trained person
  If heartbeat is absent, give external cardiac compression
  Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

- Contact with eyes
  May cause redness and irritation

SECTION 4: First aid measures (....)

- Contact with skin
  May cause redness and irritation
  Repeated exposure may cause skin dryness or cracking

- Ingestion
  May cause gastro-intestinal irritation
  May cause irritation of the throat
  May cause nausea/vomiting
  May cause diarrhoea

- Inhalation
  Inhalation of solvent vapours may give rise to nausea, headaches and dizziness
  Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis
  Principal symptoms of silicosis are cough and breathlessness
  Combustion gases can contain hydrogen cyanide
  Possible signs of poisoning by hydrogen cyanide include: headache, dizziness, drowsiness, nausea, seizures, unconciousness, respiratory disturbance, cessation of breathing, cardiac arrest

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media: foam; water fog; dry powder; carbon dioxide; sand/earth
- Unsuitable extinguishing media: high volume water jet

5.2 Special hazards arising from the substance or mixture

- Decomposition products may include hydrogen cyanide
- Decomposition products may include oxides of nitrogen, sulphur and carbon
- Decomposition products may include ammonia
- Decomposition products may include aldehydes
- Spillage causes slippery surface

5.3 Advice for firefighters

- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions for non-emergency personnel:Avoid contact with skin and eyes; Avoid formation of dust; Do not breathe dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling.
- Personal precautions for emergency responders:Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage; Gloves that are resistant to hydrocarbons are recommended

6.2 Environmental precautions

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses
- If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities

6.3 Methods and material for containment and cleaning up

- Spillage causes slippery surface
- Avoid formation of dust

SECTION 6: Accidental release measures (....)

- Take action to prevent static discharges.
- Sweep or shovel-up spillage and remove to a safe place
- Place in appropriate container
- Seal containers and label them
- Remove contaminated material to safe location for subsequent disposal
- To be disposed of as hazardous waste

6.4 Reference to other sections

- See section(s): 7, 8 & 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Use only outdoors or in a well-ventilated area.
- Avoid breathing vapours, mist or gas
- In case of inadequate ventilation wear respiratory protection.
- Do not get in eyes, on skin, or on clothing.
- Wear protective clothing as per section 8
- Contaminated clothing should be laundered before reuse
- Do not eat, drink or smoke when using this product.
- Eyewash bottles should be available

7.2 Conditions for safe storage, including any incompatibilities

- Store in a dry place. Store in a closed container.
- Store in a well-ventilated place. Keep cool.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep out of reach of children
- Keep away from food, drink and animal feedingstuffs
- Keep away from acids and alkalis
- Keep away from oxidising substances

7.3 Specific end use(s)

- Engineering

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

- For currently recommended monitoring procedures, see HSE series ‘Methods for the Determination of Hazardous Substances’ (MDHS)
- Occupational exposure to respirable crystalline silica dust should be monitored and controlled

- Kaolin
  WEL (long term) 2 mg/m^3 (respirable dust, UK)

- Distillates (petroleum), solvent-dewaxed heavy paraffinic
  DNEL (inhalational) 5.4 mg/m^3 Industry, Long Term, Local Effects
  DNEL (inhalational) 1.2 mg/m^3 Consumer, Long Term, Local Effects
  PNEC secondary poisoning (food) 9.33 mg/kg

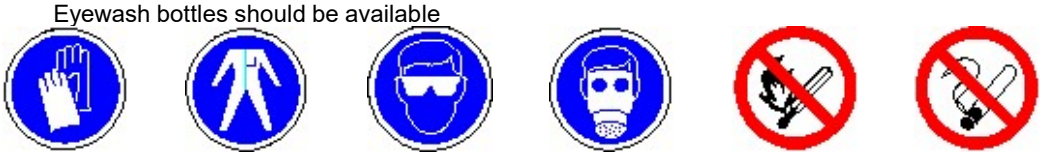
- Ammonium iron(3+)hexakis(cyano-C)ferrate(4-)
  PNEC aqua (freshwater) 1.42 ug/l
  PNEC aqua (marine water) 142 ng/l
  PNEC (STP) 10 mg/l

- Quartz (crystalline silica)
  (EU) OELV (long term TWA) 0.1 mg/m^3
  WEL (long term) 0.1 mg/m^3 (UK)

8.2 Exposure controls

SECTION 8: Exposure controls/personal protection (....)

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
  Ensure adequate ventilation
  Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
- Respiratory protection
  In case of insufficient ventilation, wear suitable respiratory equipment
  Where a reusable half mask respirator is required, use EN 140, with gas/vapour filter EN 14387 type ABEK, or EN 405; EN 1827
  Where a full face mask respirator is required, use EN 136, with gas/vapour filter EN 14387 type ABEK
- Skin protection
  Wear suitable protective clothing
  Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
  The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
  Gloves that are resistant to hydrocarbons are recommended
- Eye/face protection
  Wear safety glasses approved to standard EN 166.
- Hygiene measures
  Use good personal hygiene practices
  Wash thoroughly after handling.
  Use a suitable barrier cream to protect skin
  Contaminated clothing should be laundered before reuse
  Do not eat, drink or smoke when using this product.
  Eyewash bottles should be available



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance: Blue, thick, oily, paste
- Odour: Hydrocarbon odour
- Odour threshold: No information available
- pH: Not applicable
- Melting point/freezing point: 0 °C @ 101.325 kPa (distillates (petroleum), solvent-dewaxed heavy paraffinic)
- Initial boiling point and boiling range: No information available
- Flashpoint: > 224°C (distillates (petroleum), solvent-dewaxed heavy paraffinic)
- Evaporation Rate No information available
- Flammability (solid,gas): No information available
- Upper/lower flammability or explosive limits: No information available
- Vapour Pressure: No information available
- Vapour Density: No information available
- Relative Density: 2.6 - 2.7 @ 20°C (kaolin)
- Solubility(ies): Insoluble in water
- Partition Coefficient (n-Octanol/Water): No information available

SECTION 9: Physical and chemical properties (....)

- Autoignition Temperature: No information available
- Decomposition temperature: No information available
- Viscosity: No information available
- Explosive Properties: No information available
- Oxidising Properties: No information available

9.2 Other information

- No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

- Contact with acids liberates very toxic gas (hydrogen cyanide)

10.2 Chemical stability

- Considered stable under normal conditions

10.3 Possibility of hazardous reactions

- No hazardous reactions known if used for its intended purpose
- Hazardous polymerisation will not occur under normal conditions of storage and use

10.4 Conditions to avoid

- Avoid formation of dust
- Keep away from heat and sources of ignition

10.5 Incompatible materials

- Incompatible with strong oxidizing substances
- Incompatible with acids and alkalis

10.6 Hazardous decomposition products

- Decomposition products may include hydrogen cyanide
- Decomposition products may include oxides of nitrogen, sulphur and carbon
- Decomposition products may include ammonia
- Decomposition products may include aldehydes

SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute Toxicity

  Based on available data, the classification criteria are not met

Chemical Name	**LD50 (oral, rat)**	**LC50 (inhalation, rat)**	**LD50 (dermal, rabbit)**
Kaolin	> 2 000 mg/kg	No data available	> 2 000 mg/kg
Distillates (petroleum), solvent-dewaxed heavy paraffinic (contains <3% w/w DMSO extract, [IP346])	5 000 mg/kg	2.18 - 5.53 mg/l/4h	2 000 - 5 000 mg/kg
Ammonium iron (3+)hexakis(cyano-C) ferrate(4-)	2 000 - 5 000 mg/kg	No data available	(rat) 2 000 mg/kg
Quartz (crystalline silica)	No data available	No data available	No data available

SECTION 11: Toxicological information (....)

- Skin corrosion/irritation
  Based on available data, the classification criteria are not met

- Serious eye damage/irritation
  Based on available data, the classification criteria are not met

- Respiratory or skin sensitisation
  Based on available data, the classification criteria are not met

- Germ cell mutagenicity
  Quartz (SiO_2) is listed on Annex III of REACH as # Suspected mutagen: The outcome in CTA assay is positive according to ISSCTA

- Carcinogenicity
  Quartz (SiO_2) is listed on Annex III of REACH as # Suspected carcinogen: IARC monographs classified the substance as carcinogenic or probably/possibly carcinogenic
  Crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1). (IARC Monograph 100, 2012)
  Exposure in high concentrations or over prolonged periods of time can lead to lung disease (silicosis) and an increased risk of lung cancer

- Reproductive toxicity
  No evidence of reproductive effects
  Distillates (petroleum), solvent-dewaxed heavy paraffinic:
  Effect on fertility
  Oral route: No adverse effect observed NOAEL 1 000 mg/kg bw/day (subchronic, rat)
  Dermal route: No adverse effect observed NOAEL 1 000 mg/kg bw/day (subchronic, rat)
  Effect on developmental toxicity
  Dermal route: Adverse effect observed NOAEL 30 mg/kg bw/day (subchronic, rat)

- Specific target organ toxicity (STOT) - single exposure
  Based on available data, the classification criteria are not met

- Specific target organ toxicity (STOT) - repeated exposure
  Based on available data, the classification criteria are not met
  Distillates (petroleum), solvent-dewaxed heavy paraffinic:
  Oral route - systemic effects: Adverse effect observed LOAEL 125 mg/kg bw/day (subchronic, rat)
  Dermal route - systemic effects: Adverse effect observed LOAEL 100 mg/kg bw/day (chronic, mouse)
  Inhalation route - systemic effects: No adverse effect observed NOAEC 980 mg/m³ (subacute, rat)

- Aspiration hazard
  Distillates (petroleum), solvent-dewaxed heavy paraffinic is classified as an aspiration hazard

- Contact with eyes
  May cause redness and irritation

- Contact with skin
  May cause redness and irritation
  Repeated exposure may cause skin dryness or cracking.

- Ingestion
  May cause gastro-intestinal irritation
  May cause irritation of the throat
  May cause nausea/vomiting
  May cause diarrhoea

- Inhalation
  Inhalation of solvent vapours may give rise to nausea, headaches and dizziness
  Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis
  Principal symptoms of silicosis are cough and breathlessness
  Combustion gases can contain hydrogen cyanide
  Possible signs of poisoning by hydrogen cyanide include: headache, dizziness, drowsiness, nausea, seizures, unconciousness, respiratory disturbance, cessation of breathing, cardiac arrest

SECTION 12: Ecological information

12.1 Toxicity

- Based on available data, the classification criteria are not met
- Kaolin
  LC50 (fish) > 1 000 mg/l (4 days)
  EC50 (daphnia) > 1 000 mg/l (48 hr)
  IC50 (algae) > 1 000 mg/l (72 hr)
- Distillates (petroleum), solvent-dewaxed heavy paraffinic
  LL50 (fish) 100 mg/l (4 days)
  LL50 (aquatic invertebrates) 10 g/l (48 hr)
- Ammonium iron(3+)hexakis(cyano-C)ferrate(4-)
  LC50 (fish) 100 mg/l (4 days)
  EC50 (aquatic invertebrates) 500 mg/l (24 hr)
  EC50 (aquatic algae) 9.7 mg/l (72 hr)

12.2 Persistence and degradability

- Kaolin
  Not readily biodegradable
- Distillates (petroleum), solvent-dewaxed heavy paraffinic
  Biodegradable
- Ammonium iron(3+)hexakis(cyano-C)ferrate(4-)
  No data available

12.3 Bioaccumulative potential

- Kaolin
  Bioaccumulation is not expected
- Distillates (petroleum), solvent-dewaxed heavy paraffinic
  Potential bioaccumulation
- Ammonium iron(3+)hexakis(cyano-C)ferrate(4-)
  No information available

12.4 Mobility in soil

- Adsorption to solid soil phase can be expected

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- May cause long-term adverse effects in the environment

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Disposal should be in accordance with local, state or national legislation
- Do not reuse empty containers without commercial cleaning or reconditioning
- Do not pierce or burn container, even after use
- This material and/or its container must be disposed of as hazardous waste

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC)

SECTION 13: Disposal considerations (....)

- Hazardous Property Code(s): HP 12 Produces Toxic gases in contact with water, air or acid

SECTION 14: Transport information

Not classified as hazardous for transport

14.1 UN number

- UN No.: Not applicable

14.2 UN proper shipping name

- Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

- Hazard Class: Not applicable

14.4 Packing group

- Packing Group: Not applicable

14.5 Environmental hazards

- Not Classified

14.6 Special precautions for user

- Not Classified

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: Not applicable
- ADR UN No.: Not applicable
- ADR Hazard Class: Not applicable
- ADR Packing Group: Not applicable
- Tunnel Code: Not applicable

14.9 Sea (IMDG)

- Proper Shipping Name: Not applicable
- IMDG UN No.: Not applicable
- IMDG Hazard Class: Not applicable
- IMDG Pack Group.: Not applicable

14.10 Air (ICAO/IATA)

- Proper Shipping Name: Not applicable
- ICAO UN No.: Not applicable
- ICAO Hazard Class: Not applicable
- ICAO Packing Group: Not applicable

SECTION 15: Regulatory information

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

SECTION 15: Regulatory information (....)

- Quartz (SiO_2) is listed in Annex III of REACH as # Suspected carcinogen: IARC monographs classified the substance as carcinogenic or probably/possibly carcinogenic # Suspected mutagen: The outcome in CTA assay is positive according to ISSCTA
- Restrictions on use according to Annex XVII to REACH Regulation: Entry 65 - Inorganic ammonium salts; Conditions of restriction:; 1. Shall not be placed on the market, or used, in cellulose insulation mixtures or cellulose insulation articles after 14 July 2018 unless the emission of ammonia from those mixtures or articles results in a concentration of less than 3 ppm by volume (2,12 mg/m^3) under the test conditions specified in paragraph 4.
  A supplier of a cellulose insulation mixture containing inorganic ammonium salts shall inform the recipient or consumer of the maximum permissible loading rate of the cellulose insulation mixture, expressed in thickness and density.
  A downstream user of a cellulose insulation mixture containing inorganic ammonium salts shall ensure that the maximum permissible loading rate communicated by the supplier is not exceeded.
  2. By way of derogation, paragraph 1 shall not apply to placing on the market of cellulose insulation mixtures intended to be used solely for the production of cellulose insulation articles, or to the use of those mixtures in the production of cellulose insulation articles.
  3. In the case of a Member State that, on 14 July 2016, has national provisional measures in place that have been authorised by the Commission pursuant to Article 129(2)(a), the provisions of paragraphs 1 and 2 shall apply from that date.
  4. Compliance with the emission limit specified in the first subparagraph of paragraph 1 shall be demonstrated in accordance with Technical Specification CEN/TS 16516, adapted as follows:
  (a) the duration of the test shall be at least 14 days instead of 28 days;
  (b) the ammonia gas emission shall be measured at least once per day throughout the test;
  (c) the emission limit shall not be reached or exceeded in any measurement taken during the test;
  (d) the relative humidity shall be 90 % instead of 50 %;
  (e) an appropriate method to measure the ammonia gas emission shall be used;
  (f) the loading rate, expressed in thickness and density, shall be recorded during the sampling of the cellulose insulation mixtures or articles to be tested.

15.2 Chemical safety assessment

- A REACH chemical safety assessment has been carried out for some of the ingredients in this product

SECTION 16: Other information

The above information is believed to be correct but does not purport to be all inclusive and shall only be used as a guide. The company will not be held liable for any damage resulting from handling or from contact with this product.

Sources of data: Information from published literature and supplier safety data sheets

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

- Based on available data, the classification criteria are not met

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H304: May be fatal if swallowed and enters airways
- H413: May cause long lasting harmful effects to aquatic life
- EUH032: Contact with acids liberates very toxic gas

SECTION 16: Other information (....)

Acronyms

- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- GHS: Globally Harmonised System
- LC50: Lethal Concentration, 50%
- LD50: Lethal Dose, 50%
- LOAEL: Lowest Observed Adverse Effect Level
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- STOT RE: Specific Target Organ Toxicity Repeated Exposure
- STOT SE: Specific Target Organ Toxicity Single Exposure
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---