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

- **1.1 Product identifier**
  - **Product name:** Ibuprofen impurity F 3-[4-(2-methylpropyl)phenyl]propanoic acid
  - **Part number:** EPY0000140

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Reference material for laboratory use only

- **Manufacturer/Supplier:**
  - LGC Limited
  - Queens Road
  - Teddington
  - Middlesex TW11 0LY
  - UNITED KINGDOM
  - Tel: +44 (0) 20 8943 7000
  - Fax: +44 (0) 20 8943 2767
  - eMail: gb@lgcstandards.com
  - Web: www.lgcs tandards.com

- **Further information obtainable from:**
  - Product safety department
  - eMail: sds-request@lgcgroup.com

- **1.4 Emergency telephone number:** +44 (0) 20 8943 7000 (Monday - Friday: 8am - 5pm)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
  - **Classification according to Regulation (EC) No 1272/2008**

  ! [GHS07]
  
  Acute Tox. 4 H302 Harmful if swallowed.
  Eye Irrit. 2 H319 Causes serious eye irritation.
  STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
  - **Labelling according to Regulation (EC) No 1272/2008**
    The substance is classified and labelled according to the CLP regulation.

- **Hazard pictograms**

  ! [GHS07]

- **Signal word** Warning

- **Hazard statements**
  - H302 Harmful if swallowed.
  - H319 Causes serious eye irritation.
  - H335 May cause respiratory irritation.

- **Precautionary statements**
  - **P261** Avoid breathing dust/fume/gas/mist/vapours/spray.
  - **P280** Wear eye protection / face protection.
  - **P301+P312** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  - **P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - **P405** Store locked up.
  - **P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)
SECTION 3: Composition/information on ingredients

- 3.1 Chemical characterisation: Substances
  - CAS No. Description
    - Ibuprofen Impurity F
  - Identification number(s) None
  - RTECS: -
  - Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- 4.1 Description of first aid measures
  - General information:
    - Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Immediately wash with water and soap and rinse thoroughly.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

- 4.3 Indication of any immediate medical attention and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

- 5.1 Extinguishing media
  - Suitable extinguishing agents: Use fire extinguishing methods suitable for surrounding conditions.

- 5.2 Special hazards arising from the substance or mixture
  - Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters
  - Protective equipment: Wear self-contained respiratory protective device.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures Avoid formation of dust.

- 6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.

- 6.3 Methods and material for containment and cleaning up:
  - Dispose of contaminated material as waste according to item 13.
  - Ensure adequate ventilation.

- 6.4 Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
  Ensure good ventilation/extraction at the workplace.
  Store in cool, dry place in tightly closed receptacles.
- 7.2 Conditions for safe storage, including any incompatibilities
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

- 8.1 Control parameters
- 8.2 Exposure controls
- 8.3 Personal protective equipment:
  - General protective and hygienic measures:
    Keep away from foodstuffs, beverages and feed.
    Immediately remove all soiled and contaminated clothing
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes.
    Avoid contact with the eyes and skin.
  - Respiratory protection:
    In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- 8.4 Protection of hands:
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374

Protective gloves

- Material of gloves Butyl rubber, BR
- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
Product name: Ibuprofen impurity F 3-[4-(2-methylpropyl)phenyl]propanoic acid

- Eye protection:
  Tightly sealed goggles

 SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
  - General Information
    - Appearance:
      Form: Solid
      Colour: White
    - Odour:
      Odour: Odourless
      Odour threshold: Not determined.
    - pH-value: Not determined.
  - Change in condition
    Change in condition:
    Melting point/freezing point: 62-68 °C
    Initial boiling point and boiling range: Product is not flammable.
  - Flash point: Not applicable.
  - Flammability (solid, gas):
    Flammability: Product is not flammable.
  - Ignition temperature: Not determined
  - Decomposition temperature: Not determined.
  - Auto-ignition temperature: Not determined.
  - Explosive properties: Not determined.
  - Explosion limits:
    Lower: Not determined.
    Upper: Not determined.
  - Vapour pressure: Not applicable.
  - Density:
    Not determined.
  - Relative density: Not determined.
  - Vapour density: Not applicable.
  - Evaporation rate: Not applicable.
  - Solubility in / Miscibility with water: Not determined.
  - Partition coefficient: n-octanol/water: Not determined.
  - Viscosity:
    Dynamic: Not applicable.
    Kinematic: Not applicable.

- 9.2 Other information
  No further relevant information available.

 SECTION 10: Stability and reactivity

- 10.1 Reactivity Stable under normal conditions.
- 10.2 Chemical stability Stable under normal conditions.
Product name: Ibuprofen impurity F 3-[4-(2-methylpropyl)phenyl]propanoic acid

· Thermal decomposition / conditions to be avoided:
  Formation of toxic gases is possible during heating or in case of fire.
· 10.3 Possibility of hazardous reactions No dangerous reactions known.
· 10.4 Conditions to avoid Heat.
· 10.5 Incompatible materials: Strong oxidizing agents.
· 10.6 Hazardous decomposition products:
  Formation of toxic gases is possible during heating or in case of fire.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects
· Acute toxicity
  Harmful if swallowed.
· Primary irritant effect:
  · Skin corrosion/irritation Based on available data, the classification criteria are not met.
  · Serious eye damage/irritation
    Causes serious eye irritation.
· Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
· CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
  · Germ cell mutagenicity Based on available data, the classification criteria are not met.
  · Carcinogenicity Based on available data, the classification criteria are not met.
  · Reproductive toxicity Based on available data, the classification criteria are not met.
  · STOT-single exposure
    May cause respiratory irritation.
  · STOT-repeated exposure Based on available data, the classification criteria are not met.
  · Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity
  · Aquatic toxicity: No further relevant information available.
· 12.2 Persistence and degradability No further relevant information available.
· 12.3 Bioaccumulative potential No further relevant information available.
· 12.4 Mobility in soil No further relevant information available.
· Additional ecological information:
  · General notes:
    Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
    Do not allow undiluted product to reach ground water, water course or sewage system.
· 12.5 Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
· 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods
· Recommendation
  Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· European waste catalogue
  Waste disposal key numbers from EWC have to be assigned depending on origin and processing.
Product name: Ibuprofen impurity F 3-[4-(2-methylpropyl)phenyl]propanoic acid

(Contd. from page 5)

- Uncleaned packaging:
  - Recommendation: Dispose of in accordance with national regulations.

SECTION 14: Transport information

- 14.1 UN-Number
  - ADR, ADN, IMDG, IATA: Not applicable
  - ADR: Not applicable
  - ADN, IMDG, IATA: Not applicable

- 14.3 Transport hazard class(es)
  - ADR, ADN, IMDG, IATA
    - Class: Not applicable

- 14.4 Packing group
  - ADR, IMDG, IATA: Not applicable

- 14.5 Environmental hazards:
  - Marine pollutant: No

- 14.6 Special precautions for user: Not applicable.

- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

- UN "Model Regulation": Not applicable

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
  - Philippines Inventory of Chemicals and Chemical Substances: Substance is not listed.
  - Australian Inventory of Chemical Substances: Substance is not listed.
  - Standard for the Uniform Scheduling of Medicines and Poisons: Substance is not listed.
  - Directive 2012/18/EU
    - Named dangerous substances - ANNEX I: Substance is not listed.
  - 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

- Abbreviations and acronyms:
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - IATA: International Air Transport Association
  - GHS: Globally Harmonised System of Classification and Labelling of Chemicals
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Sources

- Data compared to the previous version altered. All sections have been updated.