Briti Scientific®
An ISO 9001:2015 and ISO/IEC 17025:2017 Certified Company.

MATERIAL SAFETY DATA SHEET

www.britiscientific.com **Issue Date:**

1- Chemical Product Information and Company Identification.

Product Name: N-Hexane, AnStan® GC Reference Standard.
Synonym: Hexane.
Product code: BS10090.
CAS Number: 110-54-3.
Company Name: Briti Scientific.
Company Address: Plot No: 78/B/13, SY-79, Phase-VI, Jeedimetla,Hyderabad- 500 055. Telangana, India.

Section 2- Composition / Information on Ingredients.

CAS No.	Chemical Name	Mol. Formula
110-54-3.	Hexane	C_6H_{14}

Section 3- Hazards Identification.

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225
Skin irritation (Category 2), H315
Reproductive toxicity (Category 2), H361f
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Specific target organ toxicity - repeated exposure, Inhalation (Category 2), Nervous system, H373
Aspiration hazard (Category 1), H304
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Label elements

Labelling according Regulation (EC) No 1272/2008
Pictogram

Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs (Nervous system) through prolonged or repeated exposure if inhaled.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P331	Do NOT induce vomiting.
Supplemental Hazard Statements	none

Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 4- First Aid Measures.

Eyes: After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

Skin: In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

General advice: Show this material safety data sheet to the doctor in attendance.

If swallowed
After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed
No data available

Section 5- Fire Fighting Measures.

Extinguishing media

Suitable extinguishing media
Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture
Carbon oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire

Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6- Accidental Release Measures.

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13

Section 7- Handling and Storage.

Handling: Advice on safe handling Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

Storage: Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8- Exposure Control/Personal Protection.

Control parameters

Ingredients with workplace control parameters

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: Viton®
Minimum layer thickness: 0,7 mm
Break through time: 480 min
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).
Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0,4 mm
Break through time: 10 min
Material tested:Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

Section 9- Physical and Chemical Properties.

Information on basic physical and chemical properties

Appearance:	Form: liquid Colour: colourless
Odor:	hydrocarbon-like
PH	7.0
Melting point/freezing point:	-95 °C
Initial boiling point and boiling range:	69 °C.
Flash point:	-22 °C - c.c.
Evaporation rate:	15.8
Upper/lower:	Upper explosion limit: 8.1 %(V)
flammability or explosive limits:	Lower explosion limit: 1.0 %(V)
Vapour pressure:	100 hPa at 9.8 °C
Vapour density:	No data available
Density	0.659 g/mL at 25 °C
Relative density:	No data available
Water solubility:	0.01 g/l at 25 °C - soluble
Autoignition Temperature:	225 °C at 1.013 hPa
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 0,3 mPa.s at 25 °C

Other safety information

No data available

Section 10- Stability and Reactivity.

Reactivity

Vapors may form explosive mixture with air.

Vapors may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions
Risk of explosion with:
Strong oxidizing agents
nitrogen oxides
Violent reactions possible with:
halogens
Risk of ignition or formation of inflammable gases or vapours with:
Peroxides
(sodium salt)

Conditions to avoid
Warming.
Incompatible materials
rubber, various plastics
Hazardous decomposition products
In the event of fire: see section 5

Section 11- Toxicological Information.

Information on toxicological effects.
Acute toxicity
LD50 Oral - Rat - male and female - 16.000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - 4 h - 172 mg/l
Remarks: (RTECS)
LD50 Dermal - Rabbit - male - > 2.000 mg/kg
(OECD Test Guideline 402)
Remarks: (ECHA)

Skin corrosion/irritation
Skin - Rabbit
Result: Skin irritation - 24 h
(OECD Test Guideline 404)
Remarks: (Regulation (EC) No 1272/2008, Annex VI)
Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 72 h
(OECD Test Guideline 405)

Respiratory or skin sensitisation
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
No data available
Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Test Type: dominant lethal test
Species: Mouse

Application Route: inhalation (vapor)

Result: negative
Remarks: (ECHA)
Carcinogenicity
No data available

Reproductive toxicity
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Suspected human reproductive toxicant Suspected of damaging fertility.
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
May cause drowsiness or dizziness. - Central nervous system Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Specific target organ toxicity - repeated exposure
Inhalation - May cause damage to organs through prolonged or repeated exposure. – Nervous system
Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard
May be fatal if swallowed and enters airways.
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis

Additional Information
Repeated dose toxicity - Rat - male - Oral - NOAEL (No observed adverse effect level) - 6,6 mg/kg
Remarks: (ECHA)

RTECS: MN9275000
Drowsiness, irritant effects, somnolence
narcosis, Nausea, Tiredness, CNS disorders, paralysis symptoms
Risk of corneal clouding.
It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12- Ecological Information.

Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 2,5 mg/l - 96 h Remarks: (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 2,1 mg/l - 48 h Remarks: (Lit.)

Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 98 % - Readily biodegradable. (OECD Test Guideline 301F) Remarks: (in analogy to similar products)

Bioaccumulative potential
No data available

Mobility in soil
No data available

Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects
No data available

Section 13- Disposal Considerations.

Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Section 14- Transport Information.

UN number
ADR/RID: 1208 IMDG: 1208 IATA: 1208
UN proper shipping name
ADR/RID: HEXANES
IMDG: HEXANES
IATA: Hexanes
Transport hazard class(es)
ADR/RID: 3 IMDG: 3 IATA: 3
Packaging group
ADR/RID: II IMDG: II IATA: II
Environmental hazards
ADR/RID: Yes IMDG Marine pollutant: Yes IATA: no

Special precautions for user
No data available

Section 15- Regulatory Information.

Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

National legislation
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
: ENVIRONMENTAL HAZARDS
: FLAMMABLE LIQUIDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

Take note of Dir 94/33/EC on the protection of young people at work.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

Section 16- Other Information.

Briti Scientific provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.