SAFETY DATA SHEET

Revision Date 23-Mar-2012 **Revision Number** 2

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

Product Identifier

Product Description: **2-Hexanone**
Cat No. **146881000; 146880000; 146885000**
Synonyms Butyl methyl ketone; Methyl butyl ketone

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Reproductive Toxicity	Category 2
Specific target organ systemic toxicity (single exposure)	Category 3
Specific target organ systemic toxicity (repeated exposure)	Category 1
Flammable liquids.	Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) T - Toxic
R-phrase(s) R10 - Flammable
R62 - Possible risk of impaired fertility
R67 - Vapors may cause drowsiness and dizziness
Risk Combination Phrases R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation

SECTION 2. HAZARDS IDENTIFICATION

Label Elements

Signal Word **Danger**

Hazard Statements

H336 - May cause drowsiness or dizziness
H372 - Causes damage to organs through prolonged or repeated exposure
H361f - Suspected of damaging fertility
H226 - Flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)

P281 - Use personal protective equipment as required
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
2-Hexanone 591-78-6	EEC No. 209-731-1	98	591-78-6	R10 T; R48/23 Repr.Cat.3; R62 R67	Repr. 2 (H361f) STOT SE 3 (H336) STOT RE 1 (H372) Flam. Liq. 3 (H226)	-

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area..

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Obtain medical attention.

Ingestion Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards.

Inhalation Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.

Notes to Physician Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media
Carbon dioxide (CO_2). Dry chemical. Use water spray to cool unopened containers. chemical foam.

Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture

Flammable. Vapors may travel to source of ignition and flash back.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not breathe dust. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from heat and sources of ignition. Flammables area.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	European Union	The United Kingdom	France	Belgium	Spain
2-Hexanone		STEL: 15 ppm 15 min STEL: 63 mg/m^3 15 min TWA: 5 ppm 8 hr TWA: 21 mg/m^3 8 hr Skin	VME: 5 ppm 8 heures. VME: 20 mg/m^3 8 heures. VLCT: 8 ppm VLCT: 35 mg/m^3	TWA: 5 ppm 8 uren TWA: 21 mg/m^3 8 uren STEL: 10 ppm 15 minuten STEL: 42 mg/m^3 15 minuten Skin	Skin VLA-ED: 5 ppm 8 horas VLA-ED: 21 mg/m^3 8 horas

Component	Italy	Germany	Portugal	The Netherlands	Finland
2-Hexanone		MAK: 5 ppm 8 Stunden. MAK: 21 mg/m^3 8 Stunden. skin notation Skin Peak: 40 ppm Peak: 168 mg/m^3 TWA: 5 ppm 8 Stunden. exposure factor 8 TWA: 21 mg/m^3 8 Stunden. exposure factor 8	STEL: 10 ppm 15 minutos TWA: 5 ppm 8 horas Skin		TWA: 5 ppm 8 tunteina TWA: 21 mg/m^3 8 tunteina STEL: 10 ppm 15 minuutteina STEL: 42 mg/m^3 15 minuutteina Skin

Component
2-Hexanone

Austria	Denmark	Switzerland	Poland	Norway
Skin STEL: 20 ppm 15 Minuten STEL: 84 mg/m^3 15 Minuten TWA: 5 ppm 8 Stunden TWA: 21 mg/m^3 8 Stunden	TWA: 1 ppm 8 timer TWA: 4 mg/m^3 8 timer Skin	Skin STEL: 40 ppm 15 Minuten STEL: 168 mg/m^3 15 Minuten MAK: 5 ppm 8 Stunden MAK: 21 mg/m^3 8 Stunden	NDS: 10 mg/m^3 8 godzinach	TWA: 1 ppm 8 timer TWA: 4 mg/m^3 8 timer STEL: 3 ppm 15 minutter. STEL: 8 mg/m^3 15 minutter. Skin

Component
2-Hexanone

Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
TWA: 20.0 mg/m^3	Skin Notation TWA: 5 ppm 8 satima. TWA: 21 mg/m^3 8 satima.	TWA: 5 ppm 8 hr. TWA: 20 mg/m^3 8 hr. Skin		TWA: 20 mg/m^3 8 hodinách. Potential for cutaneous absorption Ceiling: 40 mg/m^3

Component
2-Hexanone

Estonia	Gibraltar	Greece	Hungary	Iceland
Skin notation TWA: 1 ppm 8 tundides. TWA: 4 mg/m^3 8 tundides. STEL: 2 ppm 15 minutites. STEL: 8 mg/m^3 15 minutites.		skin - potential for cutaneous absorption TWA: 5 ppm TWA: 20 mg/m^3	STEL: 84 mg/m^3 15 percekben. TWA: 21 mg/m^3 8 órában. potential for cutaneous absorption	TWA: 1 ppm 8 klukkustundum. TWA: 4 mg/m^3 8 klukkustundum. Skin notation Ceiling: 2 ppm Ceiling: 8 mg/m^3

Component
2-Hexanone

Latvia	Lithuania	Luxembourg	Malta	Romania
	TWA: 1 ppm TWA: 4 mg/m^3 Skin notation STEL: 2 ppm STEL: 8 mg/m^3			TWA: 49 ppm 8 ore TWA: 200 mg/m^3 8 ore STEL: 80 ppm 15 minute STEL: 300 mg/m^3 15 minute

Component
2-Hexanone

Russia - TWA	Slovak Republic	Slovenia	Sweden	Turkey
		TWA: 5 ppm 8 urah TWA: 21 mg/m^3 8 urah Potential for cutaneous absorption STEL: 20 ppm 15 minutah STEL: 84 mg/m^3 15 minutah	STV: 2 ppm 15 minuter STV: 8 mg/m^3 15 minuter LLV: 1 ppm 8 timmar. LLV: 4 mg/m^3 8 timmar. Skin notation	

Biological limit values

Component
2-Hexanone

European Union	United Kingdom	France	Spain	Germany
			2,5-Hexanedione (without hydrolysis): 0.4 mg/L urine end of workweek	2,5-Hexandione plus 4,5-Dihydroxy-2-hexanone: 5 mg/L urine end of shift

Component	Austria	Switzerland	Poland	Norway	Ireland
2-Hexanone		2,5-Hexanedione plus 4,5-Dihydroxy-2-hexanone: 5 mg/L urine end of shift			

Component	Slovak Republic	Turkey
2-Hexanone	2,5-Hexanedione: 5 mg/L urine end of exposure or work shift 2,5-Hexanedione: 5 mg/L urine after all work shifts for long-term exposure	

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection Goggles
Hand Protection Protective gloves
Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure
Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Light yellow
odor	pungent
pH	No information available.
Vapor Pressure	20 @ 10 mmHg °C
Vapor Density	3.5 (Air = 1.0)
Boiling Point/Range	127°C / 260.6°F
Melting Point/Range	-57°C / -70.6°F
Flash Point	23°C / 73.4°F
Autoignition Temperature	423°C / 793.4°F
Explosion Limits	
Lower	1.2
Upper	8
Water Solubility	20g/L (20°C)

Specific Gravity	0.810
Molecular Formula	C6 H12 O
Molecular Weight	100.16

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions . No information available.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition, Incompatible products.

Incompatible Materials

Strong bases, Reducing agents.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO_2).

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Product Information No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Hexanone	2590 mg/kg (Rat)	4800 mg/kg (Rabbit)	8000 ppm (Rat) 4 h

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.
Mutagenic Effects No information available

Reproductive Effects	No information available.
Developmental Effects	No information available.
Target Organs	No information available.
Other Adverse Effects	See actual entry in RTECS for complete information
Endocrine Disruptor Information	None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2-Hexanone		428 mg/L LC50 96 h		

Persistence and degradability

No information available

Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow
2-Hexanone	1.38

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products	Dispose of in accordance with local regulations
Contaminated Packaging	Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO

UN-No	1224
Hazard Class	3
Packing Group	III
Proper Shipping Name	KETONES, LIQUID, N.O.S.

ADR

UN-No	1224
Hazard Class	3
Packing Group	III
Proper Shipping Name	KETONES, LIQUID, N.O.S.

IATA

UN-No	1224
Hazard Class	3
Packing Group	III
Proper Shipping Name	KETONES, LIQUID, N.O.S.*

SECTION 15. REGULATORY INFORMATION

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

International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
2-Hexanone	209-731-1	-		S	X	-	X	X	X	X	X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
AICS - Inventory of Chemical Substances
KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable
R62 - Possible risk of impaired fertility
R67 - Vapors may cause drowsiness and dizziness
R48/23 - Toxic: danger of serious damage to health by prolonged exposure through inhalation

Revision Date 23-Mar-2012
Revision Summary

Reason for revision Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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End of Safety Data Sheet