

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

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

1.1 Product identifier

Identification of the substance	Hydrocarbons, C6, isoalkanes, <5% n-hexane
Registration number (REACH)	01-2119484651-34-0002
EC number	931-254-9
Index No	-
CAS number	64742-49-0
Additional relevant and available information	Iparsol 60 i-Hexan-F

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

Relevant identified uses	Metal working fluids / rolling oils Use as binders and release agents Use as a fuel Rubber production and processing Use in laboratories Polymer processing Functional Fluids Other Consumer Uses Mining chemicals manufacture of substances Distribution of substance Uses in Coatings Use in Cleaning Agents Formulation & (re)packing of substances and mixtures Blowing agents Explosives manufacture and use
--------------------------	--

1.3 Details of the supplier of the safety data sheet

DHC Solvent Chemie GmbH
Timmerhellstraße 28
D-45478 Mülheim an der Ruhr
Germany

Telephone: +49 (208) 9940-0
Telefax: +49 (208) 9940-150

Competent person responsible for the safety data sheet

Yvonne Knappe

e-mail (competent person)

productsafety@dhc-solvent.de

1.4 Emergency telephone number

Emergency information service

DHC Solvent Chemie GmbH
+49 (208) 9940-112

This number is only for medical emergencies.
Giftnotrufzentrale Berlin
+49 (0)30 19 240.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Hazard class	Category	Hazard class and category	Hazard statement
flammable liquid	Cat. 2	(Flam. Liq. 2)	H225
skin corrosion/irritation	Cat. 2	(Skin Irrit. 2)	H315
specific target organ toxicity - single exposure (narcotic effects, drowsiness)	Cat. 3	(STOT SE 3)	H336
aspiration hazard	Cat. 1	(Asp. Tox. 1)	H304
hazardous to the aquatic environment - chronic hazard	Cat. 2	(Aquatic Chronic 2)	H411

Remarks

For full text of H-phrases: see SECTION 16.

The classification as a carcinogen or mutagen is not required. The substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

The most important adverse physicochemical, human health and environmental effects

May be fatal if swallowed and enters airways.

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word

Danger

Pictograms

GHS02, GHS07,
GHS08, GHS09



Hazard statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Precautionary statements - prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
------	--

Precautionary statements - response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.

Precautionary statements - storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P403+P235	Store in a well-ventilated place. Keep cool.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

2.3 Other hazards

According to the results of its assessment, this substance is not a PBT or a vPvB.

Vapour heavier than air, may form an explosive mixture in air: it may be ignited at some distance away from the spill resulting in flashbacks. Flowing product can create electrostatic charge, resulting sparks may ignite or cause an explosion.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Name of substance	Hydrocarbons, C6, isoalkanes, <5% n-hexane
Registration number (REACH)	01-2119484651-34-0002
EC number	931-254-9
CAS number	64742-49-0
Index No	-
Purity	100 %

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Irrigate copiously with clean, fresh water, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Do NOT induce vomiting. Rinse mouth with water (only if the person is conscious).

4.2 Most important symptoms and effects, both acute and delayed

Choking and suffocation risks. Narcotic effects. Deficits in perception and coordination, reaction time, or sleepiness.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

carbon dioxide (CO₂), BC-powder, foam, alcohol resistant foam, water mist

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Solvent vapours are heavier than air and may spread along floors. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. May produce toxic fumes of carbon monoxide if burning.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO₂)

5.3 Advice for firefighters

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance. Keep containers cool with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Avoid inhaling sprayed product. Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. Remove/take off immediately all contaminated clothing and wash it before reuse.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage (sawdust, kieselgur (diatomite), sand, universal binder).

Appropriate containment techniques

Use of adsorbent materials. - covering of drains

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Recommendations

• Measures to prevent fire as well as aerosol and dust generation

Use only in well-ventilated areas. Use local and general ventilation. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools.

• Warning

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Advice on general occupational hygiene

Wash hands after use. Do not to eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- **Explosive atmospheres**

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

- **Flammability hazards**

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

- **Ventilation requirements**

Use local and general ventilation. Ground/bond container and receiving equipment.

- **Packaging compatibilities**

Only packagings which are approved (e.g. acc. to ADR) may be used.

Suitable materials and coatings for container/equipment: Carbon Steel, Stainless Steel, Polyester, Polytetrafluoroethylene (PTFE), Polyvinyl Alcohol (PVA)

Unsuitable Materials and Coatings for container/equipment: Butyl Rubber, Natural Rubber, Ethylene-propylene-diene monomer (EPDM), Polystyrene, Polyethylene, Polyacrylonitrile.

7.3 Specific end use(s)

See attached exposure scenarios

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Source
DE	Hydrocarbons, C6, isoalkanes, <5% n-hexane	64742-49-0	AGW		1,200		2,400	RCP method according to TRGS 900

Notation

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period unless otherwise specified.

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average.

Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	13,964 mg/kg	human, dermal	worker (industry)	chronic - systemic effects
DNEL	5,306 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
DNEL	1,301 mg/kg	human, oral	consumer (private households)	chronic - systemic effects
DNEL	1,377 mg/kg	human, dermal	consumer (private households)	chronic - systemic effects
DNEL	1,131 mg/m ³	human, inhalatory	consumer (private households)	chronic - systemic effects

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

8.2 Exposure controls

Appropriate engineering controls

Technical measures and the appliance of appropriate working methods take priority over the use of personal protective equipment.

Safety and necessary control measures vary according to exposure conditions. Appropriate measures are:

Open windows, door, to allow sufficient ventilation. If this is not possible employ a fan to increase air exchange (see attached exposure scenarios).

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection.

Skin protection

• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

Short-term contact with the skin: Disposable gloves

Long-term contact with the skin: Gloves with long cuffs

Check leak-tightness/impermeability prior to use.

• type of material

NBR: acrylonitrile-butadiene rubber, FKM: fluoro-elastomer

• material thickness

0,40 mm.

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Body protection:

Suitable protective clothing: Flame resistant clothing

Suitable safety shoes: Anti static safety shoes according to EN 345 S3

Respiratory protection

For activities in enclosed areas at elevated temperatures of the substance, local extraction or explosion protected ventilation equipment is recommended. In case this is not sufficient for the intended use, then apply a suitable respiratory protection according to EN 140 type A or better (see exposure scenarios).

Environmental exposure controls

Do not empty into drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Physical state	liquid
Colour	colourless
Odour	characteristic

Other physical and chemical parameters

pH (value)	not determined
Melting point/freezing point	<-20 °C (ASTM D 5950)
Initial boiling point and boiling range	48 - 70 °C at 1,013 mbar (ASTM D 1078)
Flash point	<0 °C (DIN 51755)

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

Explosive limits

• lower explosion limit (LEL)	1 vol%
• upper explosion limit (UEL)	7.4 vol%
Vapour pressure	25 kPa at 20 °C
Density	0.65 - 0.69 g/cm ³ at 15 °C
Solubility(ies)	not determined
Partition coefficient	
n-octanol/water (log KOW)	This information is not available.
Auto-ignition temperature	>200 °C
Viscosity	
• kinematic viscosity	0.3 - 0.6 mm ² /s (ASTM D7042)
Explosive properties in use, may form flammable/explosive vapour-air mixture	
Oxidising properties	none

9.2 Other information

Surface tension	16 - 20 mN/m (25 °C) (Wilhelmy Plate)
-----------------	---------------------------------------

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

risk of ignition

• if heated

risk of ignition

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure (see below "Conditions to avoid").

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use only non-sparking tools.

10.5 Incompatible materials

oxidisers

10.6 Hazardous decomposition products

No known hazardous decomposition products.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

Exposure route	Endpoint	Value	Species
oral	LD50	16,750 mg/kg	rat
dermal	LD50	3,350 mg/kg	rabbit
inhalation: vapour	LC50	259,354 mg/l/4h	rat

Skin corrosion/irritation

Causes skin irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Summary of evaluation of the CMR properties

Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant.

Specific target organ toxicity (STOT)

- **Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness.

- **Specific target organ toxicity - repeated exposure**

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

May be fatal if swallowed and enters airways.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity (acute)

Endpoint	Value	Species	Exposure time
LL50	18.27 mg/l	rainbow trout (Oncorhynchus mykiss)	96 hours
EL50	31.9 mg/l	daphnia magna	48 hours

Aquatic toxicity (chronic)

May cause long-term adverse effects in the aquatic environment.

Endpoint	Value	Species	Exposure time
NOELR	4.089 mg/l	rainbow trout	28 d
NOELR	7.138 mg/l	daphnia magna	21 d

12.2 Persistence and degradability

Not readily biodegradable.

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

12.3 Bioaccumulative potential

Data are not available.

BCF 501.2

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

12.6 Other adverse effects

Data are not available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste treatment-relevant information

Solvent reclamation/regeneration.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately re-conditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

List of wastes

Proposed waste code(s) for the used product:

07 01 04x Other organic solvents, washing liquids and mother liquors

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: TRANSPORT INFORMATION

- | | | |
|------|--|--|
| 14.1 | UN number | 1208 |
| 14.2 | UN proper shipping name | HEXANES |
| | Technical name | Hydrocarbons, C6, isoalkanes, <5% n-hexane |
| 14.3 | Transport hazard class(es) | |
| | Class | 3 (flammable liquids) |
| 14.4 | Packing group | II (substance presenting medium danger) |
| 14.5 | Environmental hazards | hazardous to the aquatic environment |
| 14.6 | Special precautions for user | |
| | Provisions for dangerous goods (ADR) should be complied within the premises. | |
| 14.7 | Transport in bulk according to Annex II of MARPOL and the IBC Code | |
| | The cargo is not intended to be carried in bulk. | |

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

Information for each of the UN Model Regulations

• Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN number	1208
Proper shipping name	HEXANES
Technical name (hazardous constituents)	Hydrocarbons, C6, isoalkanes, <5% n-hexane
Class	3
Classification code	F1
Packing group	II
Danger label(s)	3 + "fish and tree"



Environmental hazards	yes (hazardous to the aquatic environment)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33

Emergency Action Code

3YE

• International Maritime Dangerous Goods Code (IMDG)

UN number	1208
Proper shipping name	HEXANES
Particulars in the shipper's declaration	UN1208, HEXANES, 3, II, -0.00001 °C c.c., MARINE POLLUTANT
Class	3
Marine pollutant	yes (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	3 + "fish and tree"



Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	E

• International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1208
Proper shipping name	Hexanes
Class	3
Environmental hazards	yes (hazardous to the aquatic environment)
Packing group	II
Danger label(s)	3



Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

- 2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

Notation

57) Hazardous to the Aquatic Environment in category Chronic 2.

- **Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)**

VOC content 100 %

- **Directive on industrial emissions (VOCs, 2010/75/EU)**

VOC content 100 %

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AGW	workplace exposure limit
BCF	BioConcentration Factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	the Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Version number: GHS 1.0

Revision: 25.02.2016

Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	short-term exposure limit
TWA	time-weighted average
VOC	Volatile Organic Compounds
vPvB	very Persistent and very Bioaccumulative

Key literature references and sources for data

- Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU
- Regulation (EC) No. 1272/2008 (CLP, EU GHS)
- See attached exposure scenarios

http://www.dhc-solvent.de/dhc_sdbreach.html

http://www.dhc-solvent.de/en/dhc_sdbreach.html

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).
International Maritime Dangerous Goods Code (IMDG).
International Air Transport Association (IATA).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H225	highly flammable liquid and vapour
H304	may be fatal if swallowed and enters airways
H315	causes skin irritation
H336	may cause drowsiness or dizziness
H411	toxic to aquatic life with long lasting effects