SAFETY DATA SHEET

GHEMSERVIGE

1. Identification

Product identifier	Diphenyl terephthalate So	blution
Other means of identification		
Item	S-16455J1	
Recommended use	For Laboratory Use Only	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/	Distributor information	
Manufacturer		
Company name Address Telephone	Chem Service, Inc. 660 Tower Lane West Chester, PA 19380 United States Toll Free	800-452-9994
	Direct	610-692-3026
Website E-mail	www.chemservice.com info@chemservice.com	
Emergency phone number	Chemtrec US Chemtrec outside US	800-424-9300 +1 703-527-3887
2. Hazard(s) identification		

Category 2 **Physical hazards** Flammable liquids **Health hazards** Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2A Reproductive toxicity Category 2 Category 3 narcotic effects Specific target organ toxicity, single exposure Specific target organ toxicity, repeated Category 1 exposure Aspiration hazard Category 1 Hazardous to the aquatic environment, acute **Environmental hazards** Category 2 hazard Hazardous to the aquatic environment, Category 2 long-term hazard **OSHA** defined hazards Not classified.

Label elements



Danger

Hazard statement

Signal word

Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

Precautionary statement	
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
n-Hexane		110-54-3	99.99
Diphenyl terephthalate		1539-04-4	0.01
4. First-aid measures			
Inhalation	Remove victim to fresh air and keep at rest in CENTER or doctor/physician if you feel unwe	•	athing. Call a POISON
Skin contact	Take off immediately all contaminated clothing occurs: Get medical advice/attention. Wash c		
Eye contact	Immediately flush eyes with plenty of water fo present and easy to do. Continue rinsing. Get		,
Ingestion	Call a physician or poison control center imme vomiting occurs, keep head low so that stoma	5	5

Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Most important Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, symptoms/effects, acute and redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Prolonged delayed exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water

immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Symptoms may be delayed.

Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.
6. Accidental release meas	sures
Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from
	entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Components	Туре		Va	alue	
n-Hexane (CAS 110-54-3)	PEL			800 mg/m3	
US. ACGIH Threshold Lim	it Values		50	00 ppm	
Components	Туре		Va	alue	
n-Hexane (CAS 110-54-3)	TWA		50) ppm	
US. NIOSH: Pocket Guide			N.		
Components	Туре			alue	
n-Hexane (CAS 110-54-3)	TWA			30 mg/m3) ppm	
Biological limit values					
ACGIH Biological Exposu	re Indices				
Components	Value	Determinant	Specimen	Sampling Time	
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedio n, without hydrolysis	Urine	*	
* - For sampling details, plea	ase see the source docu	ument.			
xposure guidelines					
US - California OELs: Skir	•				
n-Hexane (CAS 110-54 US ACGIH Threshold Limi	t Values: Skin designa	ation	absorbed throu	-	
n-Hexane (CAS 110-54 Appropriate engineering	•		e absorbed throu	ugn the skin. Good general ventilation (typically 10 a	air
ontrols	changes per hour) s applicable, use proc maintain airborne le	should be used. Ve cess enclosures, loo vels below recomm in airborne levels to	ntilation rates sl cal exhaust ven nended exposur o an acceptable	nould be matched to conditions. If tilation, or other engineering controls to e limits. If exposure limits have not be level. Provide eyewash station. Eye w	o en
ndividual protection measure					
Eye/face protection	Chemical respirator	with organic vapor	cartridge and f	ull facepiece.	
Skin protection Hand protection	Wear appropriate cl	nemical resistant gl	oves.		
Other	Wear appropriate cl	nemical resistant cl	othing. Use of a	n impervious apron is recommended.	
Respiratory protection	Chemical respirator	with organic vapor	cartridge and f	ull facepiece.	
Thermal hazards	Wear appropriate th	ermal protective cl	othing, when ne	cessary.	
General hygiene onsiderations	personal hygiene m	easures, such as w	ashing after ha	n using do not smoke. Always observe ndling the material and before eating, ig and protective equipment to remove	•
). Physical and chemica	l properties				

Liquid. Liquid.

Physical state

Form

Oslan	Neteralista		
Color	Not available. Not available.		
Odor Odor	Not available.		
Odor threshold			
pH	Not available.		
Melting point/freezing point	-137.74 °F (-94.3 °C) estimated		
Initial boiling point and boiling range	155.66 °F (68.7 °C) estimated		
Flash point	-7.0 °F (-21.7 °C) estimated		
Evaporation rate	Not available.		
Flammability (solid, gas)	Not applicable.		
Upper/lower flammability or exp	losive limits		
Flammability limit - lower (%)	1.1 % estimated		
Flammability limit - upper (%)	7.5 % estimated		
Explosive limit - lower (%)	Not available.		
Explosive limit - upper (%)	Not available.		
Vapor pressure	201.3 hPa estimated		
Vapor density	Not available.		
Relative density	Not available.		
Solubility(ies)			
Solubility (water)	Not available.		
Partition coefficient (n-octanol/water)	Not available.		
Auto-ignition temperature	437 °F (225 °C) estimated		
Decomposition temperature	Not available.		
Viscosity	Not available.		
Other information			
Explosive properties	Not explosive.		
Flammability class	Flammable IB estimated		
Oxidizing properties	Not oxidizing.		
10. Stability and reactivity			
Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.		
Chemical stability	Material is stable under normal conditions.		
Possibility of hazardous reactions	Hazardous polymerization does not occur.		
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.		
Incompatible materials	Strong oxidizing agents.		
Hazardous decomposition products	No hazardous decomposition products are known.		
11 Toxicological informat	ion in the second se		

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological eff		d and ontors ainwave
Acute toxicity	-	d and enters airways.
Components	Species	Test Results
n-Hexane (CAS 110-54-3)		
<u>Acute</u>		
Dermal LD50	Rabbit	> 2000 mg/kg, 4 Hours
LDOU	Rabbit	2000 mg/kg, 4 hours
* Estimates for product may I	be based on additional	ponent data not shown.
Skin corrosion/irritation	Causes skin irritatio	
Serious eye damage/eye irritation	Causes serious eye	ation.
Respiratory or skin sensitizatio	n	
Respiratory sensitization	Not a respiratory se	zer.
Skin sensitization	This product is not	cted to cause skin sensitization.
Germ cell mutagenicity	No data available to mutagenic or genot	cate product or any components present at greater than 0.1% are
Carcinogenicity	Not classifiable as f	cinogenicity to humans.
IARC Monographs. Overall Not listed. OSHA Specifically Regulate Not regulated. US. National Toxicology Pr	ed Substances (29 C	910.1001-1050)
Not listed.	• • • • • •	·
Reproductive toxicity	-	fertility or the unborn child.
Specific target organ toxicity - single exposure	May cause drowsiness and dizziness.	
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.	
Aspiration hazard	May be fatal if swal	d and enters airways.
Chronic effects	Causes damage to harmful.	ns through prolonged or repeated exposure. Prolonged inhalation may be
12. Ecological information	n	
Ecotoxicity		long lasting effects.
Components	Spe	Test Results
n-Hexane (CAS 110-54-3)		
Aquatic		
Fish	LC50 Fath	minnow (Pimephales promelas) 2.101 - 2.981 mg/l, 96 hours
* Estimates for product may I	be based on additional	ponent data not shown.
Persistence and degradability		
Bioaccumulative potential		
Partition coefficient n-octa n-Hexane	nol / water (log Kow)	3.9
Mobility in soil	No data available.	
Other adverse effects		nmental effects (e.g. ozone depletion, photochemical ozone creation uption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT	
UN number	UN1208
UN proper shipping name	Hexanes, solution (n-Hexane RQ = 5001 LBS), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T4, TP1
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242
ΙΑΤΑ	
UN number	UN1208
UN proper shipping name	Hexanes solution (n-Hexane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
ERG Code	3H
	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo	Allowed with restrictions.
aircraft	
Cargo aircraft only	Allowed with restrictions.
IMDG	
UN number	UN1208
UN proper shipping name	HEXANES SOLUTION (n-Hexane), MARINE POLLUTANT
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-E, S-D
· · ·	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to	Not established.
Annex II of MARPOL 73/78 and	
the IBC Code	







IMDG Regulated Marine Pollutant. DOT Regulated Marine Pollutant.

15. Regulatory information

US federal regulations	This product is a "Hazard Standard, 29 CFR 1910.		fined by the OSHA Hazard Communica
TSCA Section 12(b) Export I	Notification (40 CFR 707,	Subpt. D)	
Not regulated.			
CERCLA Hazardous Substa	nce List (40 CFR 302.4)		
n-Hexane (CAS 110-54-3)	Listed.	
SARA 304 Emergency released	se notification		
Not regulated.			
OSHA Specifically Regulate	d Substances (29 CFR 19	910.1001-1050)	
Not regulated.			
Superfund Amendments and Re	authorization Act of 1986	6 (SARA)	
Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No		
SARA 302 Extremely hazard	lous substance		
Not listed.			
SARA 311/312 Hazardous chemical	No		
SARA 313 (TRI reporting)			
Chemical name		CAS number	% by wt.
n-Hexane		110-54-3	99.99

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List n-Hexane (CAS 110-54-3) Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130) Not regulated. Safe Drinking Water Act Not regulated. (SDWA)

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

n-Hexane (CAS 110-54-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	04-02-2019
Version #	01
NFPA ratings	Health: 2 Flammability: 3 Instability: 0

Chem Service, Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

Persons not specifically and properly trained should not handle this chemical or its container. This product is furnished FOR LABORATORY USE ONLY! Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticide products, food additives or as household chemicals.

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