

SAFETY DATA SHEET

Issuing Date 24-Apr-2014 Revision Date 29-Aug-2017 Revision Number 1

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name N.4

Contains n-Hexane, Cyclohexane, Naphtha, petroleum, hydrotreated light Contains Naphtha, petroleum, hydrotreated light, n-Hexane, Cyclohexane

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

Recommended Use Viscometer and/or density measurement equipment calibration and performance

verification reference standard

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Supplier

Cannon Instrument Company 2139 High Tech Rd. State College, PA 16803-1733 TEL: (814) 353-8000; (800) 676-6232

For further information, please contact

E-mail Address No information available.

1.4. Emergency telephone number

Emergency Telephone (800) 255-3924 Domestic CHEM-TEL Inc.

Number +1 (813) 248-0585 Overseas CHEM-TEL Inc. (Please Call Collect)

Europe 112

Section 2. Hazards identification

2.1. - Classification of the substance or mixture

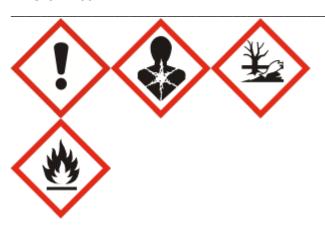
REGULATION (EC) No 1272/2008

Aspiration Toxicity	Category 1
Skin Corrosion/Irritation	Category 2
Reproductive Toxicity	Category 2
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3
Specific Target Organ Toxicity (Repeated Exposure)	Category 2
Chronic Aquatic Toxicity	Category 2

Physical Hazards

	
Flammable liquids	Category 2

2.2. Label Elements



Signal Word

Danger

Hazard Statements

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 through prolonged or repeated exposure

H411 - Toxic to aquatic life with long lasting effects

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

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P260 - Do not breathe dust/ fume/ gas/ mist/ vapors/ spray

P370 + P378 - In case of fire: Use CO2, dry chemical, or foam for extinction.

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician

P331 - Do NOT induce vomiting

2.3. Other information

Prolonged skin contact may defat the skin and produce dermatitis.

Section 3. Composition/information on ingredients

3.1. Substances

3.2. Mixtures

Chemical Name	EC-No	CAS-No	Weight %	EU - GHS Substance Classification	REACH No.
n-Hexane	203-777-6	110-54-3	40-60	Skin Irrit. 2 (H315) Flam. Liq. 2 (H225) Repr. 2 (H361f) STOT RE 2 (H373) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411)	No data available
Hexane, Other Isomers	=	-	40-60		No data available
Methylcyclopentane	202-503-2	96-37-7	5-20		No data available
Naphtha, petroleum, hydrotreated light	265-151-9	64742-49-0	<15	Muta. 1B (H340) Carc. 1B (H350) Asp. Tox. 1 (H304)	No data available
Heptane, All Isomers	-	-	<3		No data available
Cyclohexane	203-806-2	110-82-7	<2	Skin Irrit. 2 (H315) Flam. Liq. 2 (H225) STOT SE 3 (H336) Asp. Tox. 1 (H304) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	No data available

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

Section 4. First aid measures

4.1. Description of first-aid measures

Eye Contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and

continue flushing for at least 15 minutes. Obtain medical attention if irritation persists.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and

shoes. Get medical attention if irritation develops and persists.

Ingestion Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious

person. Drink plenty of water. Get medical attention.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Get medical attention immediately if symptoms occur. Artificial respiration and/or oxygen may be necessary. If breathing has stopped, contact emergency medical services

immediately.

4.2. Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects Drowsiness. Dizziness. Irritation. Difficulty in breathing. Coughing and/ or wheezing.

Nausea. Tremors. Headaches. Neurological disorders. Impairment of vision.

4.3. Indication of immediate medical attention and special treatment needed

Notes to Physician Aspiration hazard.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Carbon dioxide (CO2). Foam. Dry chemical.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide, Carbon dioxide.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Avoid contact with skin, eyes and clothing. Use personal protective equipment.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Dike to collect large liquid spills. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Clean contaminated surface thoroughly.

6.4. Reference to other sections

See Section 12 for additional information.

Section 7. Handling and storage

7.1. Precautions for Safe Handling

Handling

Keep away from open flames, hot surfaces and sources of ignition. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

7.3. Specific end use(s)

Exposure Scenario

No information available.

Other Guidelines

No information available.

Section 8. Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical Name	EU	Austria	Belgium	Cyprus	Denmark
n-Hexane	TWA 20 ppm	STEL: 80 ppm	TWA: 20 ppm	TWA: 20 ppm	TWA: 20 ppm
110-54-3	TWA 72 mg/m ³	STEL: 288 mg/m ³	TWA: 72 mg/m ³	TWA: 72 mg/m ³	TWA: 72 mg/m ³
		TWA: 20 ppm			
		TWA: 72 mg/m ³			
Cyclohexane	TWA 200 ppm	STEL: 800 ppm	TWA: 100 ppm	TWA: 200 ppm	TWA: 50 ppm
110-82-7	TWA 700 mg/m ³	STEL: 2800 mg/m ³	TWA: 350 mg/m ³	TWA: 700 mg/m ³	TWA: 172 mg/m ³
		TWA: 200 ppm			
		TWA: 700 mg/m ³			
Chemical Name	Finland	France	Germany	Gibraltar	Greece
n-Hexane	TWA: 20 ppm	TWA: 20 ppm	TWA: 50 ppm	TWA: 20 ppm	TWA: 20 ppm
110-54-3	TWA: 72 mg/m ³	TWA: 72 mg/m ³	TWA: 180 mg/m ³	TWA: 72 mg/m ³	TWA: 72 mg/m ³
	STEL: 630 ppm	STEL: 1500 mg/m ³	Ceiling / Peak: 400		
	STEL: 2300 mg/m ³	Repr*	ppm		
	Skin		Ceiling / Peak: 1440		
			mg/m³		
			Repr*		

Methylcyclopentane 96-37-7			TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 500 ppm TWA: 1800 mg/m³ Ceiling / Peak: 1000 ppm Ceiling / Peak: 3600 mg/m³			
O volah susa s	T)/// 40	0	TIMA 000	Repr*	T14/4 0/	20	TIM/A 000 mm.
Cyclohexane 110-82-7	TWA: 100 ppm TWA: 350 mg/m³ STEL: 250 ppm STEL: 875 mg/m³		TWA: 200 ppm TWA: 700 mg/m³ STEL: 375 ppm STEL: 1300 mg/m³	TWA: 200 ppm TWA: 700 mg/m³ Ceiling / Peak: 800 ppm Ceiling / Peak: 2800 mg/m³	TWA: 200 ppm TWA: 700 mg/m³		TWA: 200 ppm TWA: 700 mg/m³
				Repr*			
Chemical Name	Irelar	nd	Italy	Lithuania	Luxem	bourg	Malta
n-Hexane 110-54-3	TWA: 20 TWA: 72 STEL: 60 STEL: 216	mg/m³) ppm	TWA: 20 ppm TWA: 72 mg/m³ TWA: 50 ppm TWA: 176 mg/m³ Skin	TWA: 20 ppm TWA: 72 mg/m³ Repr*	TWA: 2 TWA: 72		
Cyclohexane 110-82-7	TWA: 200 ppm TWA: 700 mg/m ³ STEL: 600 ppm STEL: 2100 mg/m ³		TWA: 100 ppm TWA: 350 mg/m ³ TWA: 344 mg/m ³	TWA: 200 ppm TWA: 700 mg/m ³	TWA: 200 ppm TWA: 700 mg/m ³		
Chemical Name			Norway	Poland	Porti	ınal	Spain
n-Hexane 110-54-3	The Netherlands TWA: 72 mg/m³ STEL: 144 mg/m³		TWA: 20 ppm TWA: 72 mg/m³ STEL: 20 ppm STEL: 72 mg/m³ Repr*	TWA: 72 mg/m³	TWA: 2 TWA: 72 Sk	0 ppm 2 mg/m ³	TWA: 20 ppm TWA: 72 mg/m ³
Cyclohexane 110-82-7	TWA: 700 mg/m ³ STEL: 1400 mg/m ³		TWA: 150 ppm TWA: 525 mg/m ³ STEL: 150 ppm STEL: 525 mg/m ³	TWA: 300 mg/m ³ STEL: 1000 mg/m ³	TWA: 20 TWA: 70		TWA: 200 ppm TWA: 700 mg/m³
Chemical Name			Switzerland	Sweden			United Kingdom
n-Hexane 110-54-3		S	STEL: 400 ppm FEL: 1440 mg/m³ TWA: 50 ppm WA: 180 mg/m³ Skin Repr*	LLV: 25 ppr LLV: 90 mg/ Indicative STLV: 18 Indicative STLV: 18	m³ 50 ppm	T'	FWA: 20 ppm WA: 72 mg/m³ STEL: 60 ppm EL: 216 mg/m³
Cyclohexane 110-82-7		Repr* STEL: 800 ppm STEL: 2800 mg/m³ TWA: 200 ppm TWA: 700 mg/m³		LLV: 200 pp LLV: 700 mg		TV S	WA: 100 ppm VA: 350 mg/m³ TEL: 300 ppm EL: 1050 mg/m³

Biological occupational exposure limits
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Chemical Name	European Union	Austria	Bulgaria	Croatia	Czech Republic
n-Hexane				150 µg/L blood during	
110-54-3				exposure n-Hexane	
				40 ppm final exhaled	
				air during exposure	
				n-Hexane	
				0.20 mg/g Creatinine	
				urine at the end of the	
				shift 2-Hexanol for all	
				results that are	
				expressed as	
				Creatinine, Creatinine	
				concentration less	
				than 0.5 g/L and	
				greater than 3.0 g/L	
				should not be	
				considered;interferenc	
				e of simultaneous	
				exposure to Methyl	

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Cyclohexane	150 mg/g creatinine urine	
110-82-7	end of shift, and after	
	several shifts (for	
	long-term exposures) total	
	1,2-Cyclohexandiol	

Derived No Effect Level No information available.

Predicted No Effect Concentration

(PNEC)

No information available.

8.2. Exposure controls

Engineering Measures

Personal protective equipment

Eve Protection Skin and Body Protection

Hand Protection

Ensure adequate ventilation, especially in confined areas.

Personal protection equipment should be chosen according to the CEN standards Safety glasses with side-shields. If splashes are likely to occur, wear:. Goggles.

Wear fire/flame resistant/retardant clothing.

Impervious gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the

danger of cuts, abrasion.

When workers are facing concentrations above the exposure limit they must use **Respiratory Protection**

appropriate certified respirators.

Environmental Exposure Controls No information available.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Liquid	Appearance	Colorless
Odor	Hydrocarbon-like		

Property Values Remarks/ - Method

No data available None known pН Melting Point/Range No data available None known **Boiling Point/Boiling Range** >66 °C None known Flash Point -18 °C Closed cup No data available None known **Evaporation rate** Flammability (solid, gas) No data available None known No data available Flammability Limits in Air None known

Vapor Pressure No data available. None known Vapor Density None known No data available. **Relative Density** No data available 0.67 None known Water Solubility Insoluble in water. None known Solubility in other solvents Soluble in solvents. None known Partition coefficient: n-octanol/waterNo data available None known **Autoignition Temperature** No data available None known **Decomposition Temperature** No data available None known 0.4 cSt @ 40°C **Viscosity** None known

Explosive Properties No information available **Oxidizing Properties** No information available

9.2. Other information

VOC Content (%) No information available

Section 10. Stability and reactivity

10.1. Reactivity

Not reactive under normal conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Heat, flames and sparks. Ignitions sources - heat, sparks and open flames.

10.5. Incompatible materials

Strong acids. Bases. Oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides.

Section 11. Toxicological information

11.1. Information on toxicological effects

Acute Toxicity

Product Information

Inhalation May cause irritation of respiratory tract. May cause drowsiness and dizziness based on

components. May cause central nervous system depression with nausea, headache,

dizziness, vomiting, and incoordination.

Eye Contact Contact with eyes may cause irritation.

Skin Contact Irritating to skin. Prolonged skin contact may defat the skin and produce dermatitis.

Ingestion Potential for aspiration if swallowed. Aspiration may cause pulmonary edema and

pneumonitis. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Causes central nervous system depression.

Acute Toxicity 183% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document:

 LD50 Oral
 99,999.00 mg/kg

 LD50 Dermal
 99,999.00 mg/kg

 Gas
 225,000.00 mg/L

 Dust/Mist
 312.50 mg/L

 Vapor
 99,999.00 mg/L

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Hexane	15000 mg/L (Rat)	= 2000 mg/kg (Rabbit)	= 48000 ppm (Rat) 4 h
Naphtha, petroleum, hydrotreated light	> 5000 mg/kg (Rat)	> 3160 mg/kg (Rabbit)	= 73680 ppm (Rat) 4 h
Cyclohexane	= 12705 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	= 13.9 mg/L (Rat) 4 h

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenic Effects The classification listed below for the petroleum distillates in this product pertains to those

that contain more than 3% DMSO extract as measured by IP 346. The petroleum distillates

in this product do not meet that criteria to be classified as carcinogens.

Reproductive Toxicity Hexane is considered a reproductive hazard. In animal studies, adverse reproductive

effect(s) include: Decreased sperm count, Degenerative changes in the testicles.

Developmental ToxicityNo information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure: See listed target

organs below.

Target Organ Effects Peripheral Nervous System (PNS). Central nervous system (CNS). Liver. Kidney.

Respiratory system. Cardiovascular system.

Neurological EffectsRepeated or prolonged overexposure to solvents may cause permanent damage to the

nervous system. Intentional misuse by deliberately concentrating and inhaling contents may

be harmful or fatal.

Symptoms Repeated and prolonged overexposure to n-hexane has been associated with peripheral

nerve tissue damage. Adverse effects include numbness, tingling, pain, and loss of muscle control in the extremities, disorientation, impaired vision and reflexes, decline in motor

function and paralysis.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Section 12. Ecological information

12.1. Toxicity

Ecotoxicity Effects

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
n-Hexane		LC50 96 h: 2.1 - 2.98 mg/L flow-through (Pimephales promelas)		EC50 24 h: > 1000 mg/L (Daphnia magna)
Naphtha, petroleum, hydrotreated light		LC50 96 h: = 258 mg/L static (Salmo gairdneri)		EC50 48 h: < 0.26 mg/L Static (Daphnia magna) LC50 96 h: = 2.6 mg/L (Chaetogammarus marinus) EC50 24 h: = 36 mg/L (Daphnia magna)
Cyclohexane	EC50 72 h: > 500 mg/L (Desmodesmus subspicatus)	LC50 96 h: 23.03 - 42.07 mg/L static (Pimephales promelas) LC50 96 h: 24.99 - 44.69 mg/L static (Lepomis macrochirus) LC50 96 h: 3.96 - 5.18 mg/L flow-through (Pimephales promelas) LC50 96 h: 48.87 - 68.76 mg/L static (Poecilia reticulata)	EC50 = 85.5 mg/L 5 min EC50 = 93 mg/L 10 min	EC50 24 h: > 400 mg/L (Daphnia magna)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Chemical Name	Log Pow
Cyclohexane	3.44

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

This product does not contain any known or suspected endocrine disruptors.

Section 13. Disposal considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products

Dispose of in accordance with local regulations.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14. Transport information

Note: The information provided below may not apply to all shipping situations. Consult appropriate

Dangerous Goods Regulations for additional requirements and mode-specific,

material-specific, or quantity-specific shipping requirements.

IMDG/IMO

14.1. UN-NumberUN120814.2. Proper Shipping NameHexanes14.3. Hazard Class314.4. Packing GroupII

Description UN1208, Hexanes, 3, II, (-18°C c.c.), Marine Pollutant

14.5. Marine PollutantThis mixture meets the IMDG criteria for being a marine pollutant

Environmental hazard yes
14.6. Special Provisions None
EmS No. F-E, S-D

14.7. Transport in bulk according No.

to Annex II of MARPOL 73/78 and

the IBC Code

No information available.

RID

14.1. UN-NumberUN120814.2. Proper Shipping NameHexanes14.3. Hazard Class314.4. Packing GroupII

Description UN1208, Hexanes, 3, II

14.5. Environmental hazardyes14.6. Special ProvisionsNoneClassification CodeF1

<u>ADR</u>

14.1. UN-NumberUN120814.2. Proper Shipping NameHexanes14.3. Hazard Class3ADR/RID-Labels314.4. Packing GroupII

Description UN1208, Hexanes, 3, II, (D/E)

14.5. Environmental hazardyes14.6. Special ProvisionsNoneClassification CodeF1

ICAO

14.1.UN-NumberUN120814.2.Proper shipping nameHexanes14.3.Hazard Class314.4.Packing GroupII

Description UN1208, Hexanes, 3, II

14.5. Environmental hazard yes14.6. Special Provisions None

IATA

14.1. UN-NumberUN120814.2. Proper Shipping NameHexanes14.3. Hazard Class314.4. Packing GroupII

Description UN1208, Hexanes, 3, II

14.5. Environmental hazardyes14.6. Special ProvisionsNoneERG Code3H

Section 15. Regulatory information

International Inventories

TSCA -

EINECS/ELINCS

DSL/NDSL

Not determined

PICCS

Not determined

ENCS

Not determined

IECSC

Not determined

AICS

Not determined

Not determined

Not determined

Not determined

Not determined

Not determined

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

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2. Chemical Safety Assessment

No information available

Section 16. Other information

Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation

H225 - Highly flammable liquid and vapor

H361f - Suspected of damaging fertility

H373 - May cause damage to organs (a,b,c) through prolonged or repeated exposure if inhaled

H336 - May cause drowsiness or dizziness

H304 - May be fatal if swallowed and enters airways

H411 - Toxic to aquatic life with long lasting effects

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H340 - May cause genetic defects if inhaled

H350 - May cause cancer if swallowed

Key literature references and sources for data

www.ChemADVISOR.com/

Issuing Date 24-Apr-2014

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Revision Note (M)SDS sections updated: 3, 8.

This safety data sheet complies with the requirements of Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No. 1907/2006

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet