SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier
Trade name: n-Heptane

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Industrial or Commercial Use only.
Uses advised against: All other uses.

1.3 Details of the supplier of the Safety Data Sheet
USA Lab Inc.
12400 Belden Ct., Livonia,
MI 48150,
USA

Hazard emergency contact: Chemtrec 800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to OSHA Hazardous Communication Standard 29 CFR 1910.1200.
Flammable liquid, category 2
Skin irritation, category 2
Respiratory sensitization, category 1
Aquatic toxicity (acute), category 1
Aquatic toxicity (chronic), category 1

2.2 Label elements
Labelling according to OSHA Hazardous Communication Standard 29 CFR 1910.1200:

Signal word: Danger

Hazard statements:

H225	Highly flammable liquid and vapor.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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

P220 Keep/Store away from clothing/combustible materials.
P221 Take any precaution to avoid mixing with combustibles.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.

2.3 Other hazards
None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture meeting the criteria for classification in accordance with OSHA Hazardous Communication Standard 29 CFR 1910.1200.

Ingredients:

Name	CAS No.	GHS classification	% (w/v)
n-Heptane	142-82-5	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Resp. Sens. 1, H336 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	100

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Following inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Following skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Following eye contact: In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye.

Following ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

Protection of first aider: Not applicable.

4.2 Most important symptoms and effects

Symptoms: The known symptoms and effects are described in section 2.2 of this SDS.

Risks: Untreated symptoms may result in additional health risks.

4.3 Indication of any immediate medical and special treatment
The physician may contact the national poison center for advice.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, Carbon dioxide (CO2), Dry chemical

Unsuitable extinguishing media: High volume water jet.

5.2 Specific hazards arising from mixture
Extremely flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/ gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

5.3 Advice for fire fighters

Special protective equipment for firefighters:
As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

5.4 Other information
No other information available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

6.2 Environmental precautions:
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and materials for containment and cleaning up:
Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container

7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions:	Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Incompatible materials:	See section 10.

7.3 Specific end uses
See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
142-82-5	Heptane	TWA	85 ppm	NIOSH REL
		TWA	500 ppm 2,000 mg/m3	OSHA Z-1
		TWA	400 ppm 1,600 mg/m3	OSHA P0
		STEL	500 ppm 2,000 mg/m3	OSHA P0
		TWA	400 ppm	ACGIH
		STEL	500 ppm	ACGIH

8.2 Exposure controls

Engineering controls:
Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal Protective equipment:

Hand: Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved.

Body protection: Appropriate protective clothing should be worn to prevent skin contact.

Eye: Eye wash bottle with pure water. Tightly fitting safety goggles

Respiratory: No personal respiratory protective equipment normally re-quired.
In the case of vapour formation use a respirator with an ap-proved filter.

Other measures: No statement available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	No data available
pH:	No data available
Melting point/range:	-90.6 °C
Boiling point/range:	98.5 °C
Flash point:	-3.89 °C
Evaporation rate:	>1
Flammability:	No data available
Upper/lower flammability or explosive limits:	35 g/m³ (LEL) - 280 g/m³ (UEL)
Vapor pressure:	4.6 kPa (34.502803352 mm Hg) [room temperature]
Vapor density:	3.46 (Air = 1)
Relative Density:	No data available
Solubility(ies):	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	285 °C
Decomposition temperature:	No data available
Viscosity:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability
The product is stable.

10.3 Possibility of hazardous reactions
Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.

10.5 Incompatible materials
Extremely reactive or incompatible with the following materials: oxidizing materials.

10.6 Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

General information:
This product does not contain known human carcinogens.

11.1 Information on toxicological effects

Acute Toxicity:
No statements available for any of the ingredients.

Skin corrosion/irritation:
Causes skin irritation.

Serious eye damage/irritation:
No statements available for any of the ingredients.

Respiratory or skin sensitization:
May cause drowsiness or dizziness.

Germ cell mutagenicity:
No statements available for any of the ingredients.

Carcinogenicity:
This product does not contain known human carcinogens.

Reproductive toxicity:
No statements available for any of the ingredients.

STOT – single exposure:
No statements available for any of the ingredients.

STOT – repeated exposure:
No statements available for any of the ingredients.

Aspiration hazard:
No statements available for any of the ingredients.

Likely route(s) of exposure:
Skin exposure and eye exposure are the most likely to occur. Accidental ingestion is also possible.

SECTION 12: ECOLOGICAL INFORMATION

General information:
No statements available for any of the ingredients

12.1 Toxicity
No statements available for any of the ingredients.

12.2 Persistence and degradability

Physical- and photochemical elimination:
No statements available for any of the ingredients.

Biodegradation:
No statements available for any of the ingredients.

12.3 Bioaccumulative potential
No statements available for any of the ingredients.

12.4 Mobility in soil

Known/Predicted environmental distribution:
No statements available for any of the ingredients.

Surface tension:
No statements available for any of the ingredients.

Adsorption/Desorption:
No statements available for any of the ingredients.

12.5 Results of PBT and vPvB assessment
This product does not contain components which are considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
No statements available for any of the ingredients.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product:
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Waste material:
Dispose according to Federal, State, Provincial and Local regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number
ADR/RID/IDMG/IATA: UN 1206

14.2 UN proper shipping name
ADR/RID/IDMG/IATA: HEPTANES

14.3 Transport hazard class(es)
ADR/RID/IDMG/IATA: 3

14.4 Packing group
ADR/RID/IDMG/IATA: II

14.5 Environmental hazards
ADR/RID/IDMG/IATA: Yes

14.6 Special precautions for user
No statements available.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable, as product is not shipped in bulk.

SECTION 15: REGULATORY INFORMATION

International Inventories
TSCA: Complies
DSL: All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List.

US Federal Regulations
SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Acute health hazard: Yes
Chronic Health Hazard: Yes
Fire hazard: Yes
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)
C9-C11 isoalkanes and toluene are hazardous substances.

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canada
WHMIS Hazard Class
Not determined.

SECTION 16: OTHER INFORMATION

Further information

The information presented in this Safety Data Sheet (SDS) is accurate to the best of our knowledge at the date of publication. The information given within the SDS is meant solely as a guide for safe handling, use, transportation, processing, storage, release and disposal. In no means can the information within the SDS be considered as a warranty or specification for quality.