SAFETY DATA SHEET

Section 1. Identification

Product identifier : SAWYER PICARIDIN SPRAY INSECT REPELLENT SP541 SP543 SP544

Material Number : 56115173

Identified uses : Topical Insect Repellent

Supplier/Manufacturer

SAWYER PRODUCTS
Product Safety & Regulatory Affairs
PO Box 188
Safety Harbor, FL 34695
USA

For information: US/Canada (800) 356.7811
International +1 727.725.1177

In case of emergency : Chemtrec (800) 424-9300
International (703) 527-3887
Lanxess Emergency Phone (800) 410-3063.

Section 2. Hazards identification

HAZCOM Standard Status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical state : Liquid.

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
SKIN SENSITIZATION. - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) [Respiratory tract irritation and Narcotic effects] - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) [brain and nervous system] - Category 2

Hazard pictograms :

Signal word : Warning

Hazard statements : Flammable liquid and vapor. Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause respiratory irritation. May cause drowsiness and dizziness. May cause damage to organs through prolonged or repeated exposure. (brain, nervous system)

Hazard Not Otherwise Classified (HNOC) : None known.

Precautionary statements

Prevention : Wear protective gloves and eye/face protection. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only in a well-ventilated area. Do not breathe vapor. Wash hands thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Section 2. Hazards identification

Response : Get medical attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

Storage : Store locked up. Store in a well-ventilated place. Keep cool.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Ethanol benzoic acid, 2-hydroxy-, hexyl ester	27 - 33% < 0.2%	64-17-5 6259-76-3

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of first aid measures

Eye contact : Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. In case of contact, flush eyes with plenty of water for at least 20 minutes. Use fingers to ensure that eyelids are separated and that the eye is being irrigated.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. If not breathing, if breathing is irregulor or respiratory arrest occurs, provide artifical respiration, or oxygen by a trained professional, using a pocket type respirator.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. In case of contact, flush skin with plenty of water for at least 20 minutes.

Ingestion : Wash out mouth with water. 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. 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. Never give anything by mouth to an unconscious person. 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.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Section 4. First aid measures

Inhalation : Can cause central nervous system (CNS) depression. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Skin contact : Causes irritation with symptoms of reddening, itching, and swelling.
Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.
May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

Potential chronic health effects

May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Notes to physician : Treat symptomatically. No specific treatment.

Protection of first-aiders : No special measures required.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : 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. Runoff to sewer may create fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

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.

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).

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. Approach release from upwind. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal. Prevent entry into sewers, water courses, basements or confined areas.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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. Remove contaminated clothing and protective equipment before entering eating areas. Workers should wash hands and face before eating, drinking and smoking. Put on appropriate personal protection equipment. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Conditions for safe storage : 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. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Exposure limits
Ethanol	**ACGIH TLV (United States, 4/2014).** STEL: 1000 ppm 15 minutes. **OSHA PEL (United States, 2/2013).** TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Appropriate 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 protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. NIOSH approved, air-purifying organic vapor respirator.

Skin protection : Permeation resistant gloves. Wear cloth work clothing including long pants and long-sleeved shirts. Suitable protective footwear.

Eye/face protection : safety glasses with side-shields

Medical Surveillance : Not available.

Section 9. Physical and chemical properties

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Odor threshold : Not available.

pH : Not available.

Boiling point : >35 °C (1013 hPa)

Melting point : Not available.

Flash point : Closed cup: 26°C (78.8°F)

Evaporation rate : Not available.

Explosion limits : Not available.

Vapor pressure : Not available.

Density : 0.96 g/cm³

Specific gravity (Relative density) : Not available.

Solubility : Easily soluble in the following materials: cold water

Partition coefficient: n-octanol/water : Not available.

Vapor density : Not available.

Viscosity : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Section 10. Stability and reactivity

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

Chemical stability : The product is stable.

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

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.

Incompatible materials : Reactive or incompatible with the following materials:
oxidizing materials

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

Section 11. Toxicological information

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause respiratory irritation.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Causes irritation with symptoms of reddening, tearing, stinging, and swelling.

Inhalation : May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion. May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose.

Skin contact : Causes irritation with symptoms of reddening, itching, and swelling.
Once sensitized, an allergic skin reaction may occur with reddening, swelling, and rash when subsequently exposed to very low levels.

Ingestion : May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.
May cause nervous system effects which can include symptoms of dizziness, incoordination, headache, numbness, and/or confusion.

Potential chronic health effects

Short term exposure

Potential immediate effects : Not available.

Long term exposure

Potential delayed effects : Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Information on toxicological effects

Acute toxicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure	Test
Ethanol benzoic acid, 2-hydroxy-, hexyl ester	LD50 Oral LD50 Oral	Rat Rat	5000 mg/kg >5 g/kg	- -	- -
Ethanol benzoic acid, 2-hydroxy-, hexyl ester	LD50 Dermal LD50 Dermal	Rabbit Rabbit	>1000 mg/kg >5 g/kg	- -	- -
Ethanol	LC50 Inhalation Vapor	Rat	>1800 mg/l	4 hours	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
benzoic acid, 2-hydroxy-, hexyl ester	Skin - Irritant	Rabbit	-	-	-
	Eyes - Draize	Rabbit	0	-	-

Conclusion/Summary

Skin : Ethanol:Moderate irritant , Rabbit

Eyes : Ethanol:Severe irritant , Rabbit

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Ethanol	skin	Guinea pig	Not sensitizing
benzoic acid, 2-hydroxy-, hexyl ester	skin	Mouse	Sensitizing

Skin : Ethanol:Not sensitizing

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol	Chronic NOAEL Oral	Rat	10 g/kg	84 days
	Chronic NOAEL Inhalation Gas.	Guinea pig	3000 ppm	74 days
benzoic acid, 2-hydroxy-, hexyl ester	Sub-acute NOAEL Oral	Rat - Male, Female	4.7 mg/kg bw/day	13 weeks; 7 days per week

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Ethanol	Ames test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
benzoic acid, 2-hydroxy-, hexyl ester	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with/without	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: with/without	Negative
	Chromosomal aberration assay	Experiment: In vivo Subject: Mammalian-Animal	Negative

Carcinogenicity

Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Ethanol	Negative - Oral -	Rat - Male, Female	-	2 years

Product/ingredient name	CAS #	IARC	NTP	OSHA
Ethanol	64-17-5	Not classified.	Not classified.	Not classified.
benzoic acid, 2-hydroxy-, hexyl ester	6259-76-3	Not classified.	Not classified.	Not classified.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Species	Dose	Exposure
benzoic acid, 2-hydroxy-, hexyl ester		Rat - Male, Female	Oral: 540 mg/kg bw/ day	21 days; 7 days per week

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
benzoic acid, 2-hydroxy-, hexyl ester	Negative - Oral	Rat - Female	360 mg/kg bw/ day	20 days; 7 days per week 9Days

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Ethanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Ethanol	Category 2	Not determined	brain and nervous system

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	6907.9 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Test	Result	Species	Exposure
Ethanol	-	Acute EC50 8900 mg/l	Daphnia - Daphnia magna	48 hours
	-	Acute LC50 4600 mg/l	Fish - Leuciscus idus	96 hours
benzoic acid, 2-hydroxy-, hexyl ester	OECD 201 Alga, Growth Inhibition Test	Acute EC50 0.61 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	OECD 202 *Daphnia* sp. Acute Immobilization Test	Acute EC50 0.357 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	EU C.1	Acute LC50 1.34 mg/l Fresh water	Fish - Danio rerio	96 hours

Conclusion/Summary : Not available.

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
benzoic acid, 2-hydroxy-, hexyl ester	OECD 301F Ready Biodegradability - Manometric Respirometry Test	91 % - Readily - 28 days	100 mg/l	Activated sludge

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ethanol	-	50%; 0.6 day(s)	Readily
benzoic acid, 2-hydroxy-, hexyl ester	-	-	Readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Ethanol	-0.32	-	low
benzoic acid, 2-hydroxy-, hexyl ester	5.5	-	high

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Waste disposal should be in accordance with existing federal state, provincial and or local environmental controls laws.

RCRA classification : : When discarded in its purchased form, this product meets the criteria of ignitability, and should be managed as a hazardous waste (EPA Hazardous Waste Number D001). (40 CFR 261.20-24)

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	UN1170	Ethanol solutions	3	III		24, B1, IB3, T2, TP1
IMDG Class	UN1170	ETHANOL SOLUTION	3	III		**Emergency schedules (EmS)** F-E, S-D
IATA-DGR Class	UN1170	ETHANOL SOLUTION	3	III		**Passenger aircraft** 355: 60 L **Cargo aircraft** 366: 220 L

Section 14. Transport information

PG* : Packing group

RQ : 0 lbs

Section 15. Regulatory information

SARA 311/312 : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

SARA Title III Section 302 Extremely Hazardous Substances : None

SARA Title III Section 313 Toxic Chemicals : None

US EPA CERCLA Hazardous Subtances (40 CFR 302) : None

State regulations

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections on the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropraite agency in your state.

Ingredient name	CAS number	State Code	Concentration (%)
Ethanol	64-17-5	MA - S, NJ - HS, PA - RTK HS	27 - 33%
Water	7732-18-5		30 - 36%
Polyethylene Glycol	25322-68-3		18 - 24%
1-Piperidinecarboxylic Acid, 2-(2-hydroxyethyl)-, 1-methylpropylester	119515-38-7		17 - 23%

Massachusetts Substances: MA - S
Massachusetts Extraordinary Hazardous Substances: MA - Extra HS
New Jersey Hazardous Substances: NJ - HS
Pennsylvania RTK Hazardous Substances: PA - RTK HS
Pennsylvania Special Hazardous Substances: PA - Special HS

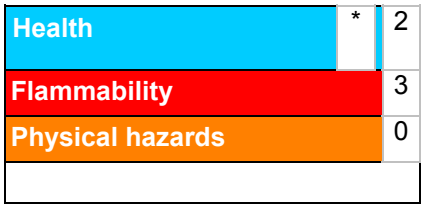
California Prop. 65

To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

U.S. Toxic Substances Control Act : Not listed on TSCA Inventory, for R&D Use Only, Section 5 (h)(3) limitations apply.

Section 16. Other information

Hazardous Material Information System :



0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
***=Chronic**

The customer is responsible for determining the PPE code for this material. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

Section 16. Other information

National Fire Protection Association (U.S.A.) :

0= Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

LANXESS' method of hazard communication is comprised of Product Labels and Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS as a customer service.

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Version : 1

Product Safety and Regulatory Affairs

Indicates information that has changed from previously issued version.

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