Safety Data Sheet
Stadis® 450

1. Product and company identification

Product name	:	Stadis® 450
Material uses	:	Petrochemical industry: Fuel additive. Antistat.
Internal code	:	10101
System code	:	10101
Date of issue/Date of revision	:	3/14/2025
Date of previous issue	:	10/14/2024
Version	:	1.45
Supplier	:	Innospec Fuel Specialties LLC 8310 South Valley Highway Suite 350 Englewood CO, 80112 USA
Information contact	:	1-800-441-9547
e-mail address of person responsible for this SDS	:	sdsinfo@innospecinc.com
NON-emergency enquiries	:	corporatecommunications@innospecinc.com

Emergency telephone number

In USA, Canada and North America, 24 hour / 7 day emergency information for our product is provided by the CHEMTREC® Emergency Call Center based in the USA

Country information	:	**Emergency telephone number**
USA, Canada, Puerto Rico, Virgin Islands	:	+1 800 424 9300
In case of difficulties, or for ships at sea	:	+1 703 527 3887

In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network

The main regional centres are listed here in Section 1.
Other local contact numbers for specific language support in Asia Pacific are listed in Section 16

Country information	:	**Emergency telephone number**	**Location**
Brazil	:	+55 11 3197 5891	Brazil
Mexico	:	+52 555 004 8763	Mexico
Europe (all countries) Middle East, Africa (French, Portuguese, English)	:	+44 (0) 1235 239 670	London, UK
Middle East, Africa (Arabic, French, English , Portuguese, Farsi)	:	+44 (0) 1235 239 671	London, UK
Asia Pacific (all countries except China)	:	+65 3158 1074	Singapore

1. Product and company identification

China : 400 120 6011 Beijing China

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 2
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H225 - Highly flammable liquid and vapor.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H336 - May cause drowsiness or dizziness.
H351 - Suspected of causing cancer.
H361 - Suspected of damaging fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

Precautionary statements

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves: > 8 hours (breakthrough time): Viton®< 1 hour (breakthrough time): nitrile rubber , polyvinyl alcohol (PVA). Wear protective clothing. Wear eye or face protection: Recommended: splash goggles.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P240 - Ground and bond container and receiving equipment.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P264 - Wash thoroughly after handling.

Section 2. Hazards identification

Response : P370 + P378 - In case of fire: In case of fire, use water spray (fog), foam, dry chemical or CO_2.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P332 + P313 - If skin irritation occurs: Get medical advice or attention.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

See toxicological information (Section 11)

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
toluene	30 - 60	108-88-3
Solvent naphtha (petroleum), heavy arom.	15 - 30	64742-94-5
naphthalenesulfonic acid, dinonyl-	10 - 14.99	25322-17-2
propan-2-ol; isopropanol	1 - 4.99	67-63-0
naphthalene	1 - 4.99	91-20-3
Quaternary ammonium compound.	Proprietary	-

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

Additional information

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 or the environment and hence require reporting in this section.

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. 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. 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.

Skin contact : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Causes skin irritation.

Ingestion : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths

Section 4. First aid measures

skeletal malformations

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
stomach pains
nausea or vomiting
reduced fetal weight
increase in fetal deaths
skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : 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.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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 : Never use water for extinction.

Specific hazards arising from the chemical : Highly 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
sulfur 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.

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.

Flash point : Closed cup: 6°C (42.8°F) [Pensky-Martens]

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

Small spill : 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.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 50°C (122°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). 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.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
toluene	**OSHA PEL 1989 (United States, 3/1989).** TWA: 100 ppm, 0 times per shift, 8 hours. TWA: 375 mg/m³, 0 times per shift, 8 hours. STEL: 150 ppm, 0 times per shift, 15 minutes. STEL: 560 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL Z2 (United States, 2/2013).** TWA: 200 ppm, 0 times per shift, 8 hours. CEIL: 300 ppm, 0 times per shift, 0 hours. AMP: 500 ppm, 0 times per shift, 10 minutes. **NIOSH REL (United States, 10/2020).** TWA: 100 ppm, 0 times per shift, 10 hours. TWA: 375 mg/m³, 0 times per shift, 10 hours. STEL: 150 ppm, 0 times per shift, 15 minutes. STEL: 560 mg/m³, 0 times per shift, 15 minutes. **ACGIH TLV (United States, 1/2023). Ototoxicant.** TWA: 20 ppm, 0 times per shift, 8 hours. **CAL OSHA PEL (United States, 5/2018). Absorbed through skin.** STEL: 560 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. C: 500 ppm TWA: 37 mg/m³ 8 hours. TWA: 10 ppm 8 hours.
propan-2-ol; isopropanol	**ACGIH TLV (United States, 3/2017).** TWA: 200 ppm, 0 times per shift, 8 hours. STEL: 400 ppm, 0 times per shift, 15 minutes. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm, 0 times per shift, 8 hours. TWA: 980 mg/m³, 0 times per shift, 8 hours. STEL: 500 ppm, 0 times per shift, 15 minutes. STEL: 1225 mg/m³, 0 times per shift, 15 minutes. **NIOSH REL (United States, 10/2016).** TWA: 400 ppm, 0 times per shift, 10 hours. TWA: 980 mg/m³, 0 times per shift, 10 hours. STEL: 500 ppm, 0 times per shift, 15 minutes. STEL: 1225 mg/m³, 0 times per shift, 15 minutes. **OSHA PEL (United States, 6/2016).** TWA: 400 ppm, 0 times per shift, 8 hours. TWA: 980 mg/m³, 0 times per shift, 8 hours.
naphthalene	**NIOSH REL (United States, 10/2020).**

Section 8. Exposure controls/personal protection

	TWA: 10 ppm 10 hours. TWA: 50 mg/m³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes. **CAL OSHA PEL (United States, 5/2018). Absorbed through skin.** TWA: 0.5 mg/m³ 8 hours. TWA: 0.1 ppm 8 hours. **OSHA PEL (United States, 5/2018).** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes. **ACGIH TLV (United States, 1/2024). Absorbed through skin.** TWA: 10 ppm 8 hours. TWA: 52 mg/m³ 8 hours.

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.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: splash goggles

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): Viton®
< 1 hour (breakthrough time): nitrile rubber , polyvinyl alcohol (PVA)

Section 8. Exposure controls/personal protection

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: full-face mask organic vapor filter (Type A)

Personal protective equipment (Pictograms) :

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear. Amber.

Odor : Aromatic.

Odor threshold : Not available.

pH : 3.7 to 5.2

Melting point/freezing point : <-40°C (<-40°F)

Boiling point : 90°C (194°F)

Flash point : Closed cup: 6°C (42.8°F) [Pensky-Martens]

Evaporation rate : Highest known value: 2 (toluene) Weighted average: 1.39compared with butyl acetate

Flammability (solid, gas) : Not applicable

Lower and upper explosive (flammable) limits : Greatest known range: Lower: 2.3% Upper: 12.7% (isopropanol)

Vapor pressure : <6.2 kPa (<46.5 mm Hg) (at 20°C)

Vapor density : Highest known value: 4.6 to 5.5 (Air = 1) (Solvent naphtha (petroleum), heavy arom.). Weighted average: 3.64 (Air = 1)

Density : 0.92 g/cm³ [15°C (59°F)]

Specific gravity : 0.92

Solubility

Media	Result
cold water	Very slightly soluble
hot water	Very slightly soluble
n-octanol	Easily soluble

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

Auto-ignition temperature : Lowest known value: 399°C (750.2°F) (isopropanol).

Decomposition temperature : Not available.

Section 9. Physical and chemical properties

Viscosity : Kinematic (room temperature): 13 mm^2/s (13 cSt)
Kinematic (40°C (104°F)): 6.9 mm^2/s (6.9 cSt)

Pour point : <-39°C

Explosive properties : Not applicable.

Aerosol product

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 toxicological effects

Acute toxicity

Product/ingredient name	Test	Species	Result	Dose
Stadis® 450	-	Rat - Male, Female	LD50 Oral	>7500 mg/kg
toluene	-	Rat	LC50 Inhalation Vapor	26700 ppm
		Rabbit	LD50 Dermal	>5000 mg/kg
		Rat	LD50 Oral	5000 mg/kg
Solvent naphtha (petroleum), heavy arom.	-	Rat	LC50 Inhalation Vapor	>590 mg/m^3
		Rabbit	LD50 Dermal	>2 mL/kg
		Rabbit	LD50 Dermal	>2000 mg/kg
		Rat	LDLo Oral	5 mL/kg
naphthalenesulfonic acid, dinonyl-	-	Rat - Male, Female	LC50 Inhalation Dusts and mists	>100 mg/l
		Rat	LC50 Inhalation Vapor	>200000 mg/m^3
		Rabbit	LD50 Dermal	>2 g/kg
		Rat - Male, Female	LD50 Oral	>2500 mg/kg
propan-2-ol; isopropanol	-	Rat	LD50 Oral	4700 mg/kg
naphthalene	-	Rat	LC50 Inhalation Vapor	>340 mg/m^3
		Rabbit	LD50 Dermal	>2000 mg/kg
		Rat	LD50 Oral	490 mg/kg
Quaternary ammonium compound.	-	Rat	LD50 Oral	960 mg/kg similar material

Section 11. Toxicological information

Potential chronic health effects

Product/ingredient name	Test	Species	Result	Dose
naphthalenesulfonic acid, dinonyl-	OECD 422 Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test	Rat - Male, Female	Sub-chronic NOAEL Oral	95 to 298 mg/kg
	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat - Male	Sub-chronic NOAEL Oral	100 mg/kg
	OECD 408 Repeated Dose 90-Day Oral Toxicity Study in Rodents	Rat - Female	Sub-chronic NOAEL Oral	300 mg/kg

Irritation/Corrosion

Product/ingredient name	Test	Species	Result	
Stadis® 450	-	Rabbit	Skin - Edema	1.33
		Rabbit	Skin - Erythema/ Eschar	2.44
		Rabbit	Skin - Primary dermal irritation index (PDII)	1.9
toluene	-	Pig	Skin - Mild irritant	-
		Rabbit	Skin - Moderate irritant	-
Solvent naphtha (petroleum), heavy arom.	-	Mammal - species unspecified	Eyes - Mild irritant	-
		Rabbit	Skin - Mild irritant	-
naphthalenesulfonic acid, dinonyl-	-	Rabbit	Eyes - Cornea opacity	2.33
		Rabbit	Eyes - Cornea opacity	2.67
		Rabbit	Eyes - Edema of the conjunctivae	4
		Rabbit	Eyes - Edema of the conjunctivae	3.83
		Rabbit	Eyes - Edema of the conjunctivae	3.67
		Rabbit	Eyes - Iris lesion	1.33
		Rabbit	Eyes - Iris lesion	1.67
		Rabbit	Eyes - Iris lesion	1.83
		Rabbit	Eyes - Redness of the conjunctivae	3
		Rabbit	Eyes - Severe irritant	-
		Rabbit	Skin - Edema	2
		Rabbit	Skin - Edema	2.16

Section 11. Toxicological information

		Rabbit	Skin - Erythema/ Eschar	1.67 to 1.83
		Rabbit	Skin - Erythema/ Eschar	2.16
		Rabbit	Skin - Moderate irritant	-
propan-2-ol; isopropanol	-	Rabbit	Eyes - Moderate irritant	-
		Rabbit	Eyes - Moderate irritant	-
		Rabbit	Eyes - Severe irritant	-
		Rabbit	Skin - Mild irritant	-
Quaternary ammonium compound.	-	Rabbit	Eyes - Cornea opacity	3.89
		Rabbit	Eyes - Edema of the conjunctivae	4
		Rabbit	Eyes - Iris lesion	2
		Rabbit	Eyes - Redness of the conjunctivae	0.33
		Rabbit	Skin - Edema	3
		Rabbit	Skin - Erythema/ Eschar	4

Conclusion/Summary

Skin : Slightly irritating to the skin.

Eyes : Severely irritating to eyes.

Respiratory : May cause respiratory irritation.

Sensitization

Product/ingredient name	Test	Species	Result
naphthalenesulfonic acid, dinonyl-	-	Human	Not sensitizing -

Mutagenicity

Product/ingredient name	Test	Experiment	Result
naphthalenesulfonic acid, dinonyl-	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
Quaternary ammonium compound.	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: with and without	Negative
	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: with and without	Negative
	OECD 473 *In vitro* Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Human Metabolic activation: with and without	Negative

Section 11. Toxicological information

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
toluene	-	3	-
propan-2-ol; isopropanol	-	3	-
naphthalene	-	2B	Reasonably anticipated to be a human carcinogen.

Reproductive toxicity

Product/ingredient name	Test	Species	Result	Dose
naphthalenesulfonic acid, dinonyl-	-	Rat - Male, Female	-	Oral

Teratogenicity

Product/ingredient name	Test	Species	Result	Dose
toluene	-	Rat - Female	Positive - Inhalation	-
naphthalenesulfonic acid, dinonyl-	-	Rat - Male, Female	Negative - Oral	-

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
toluene	Category 3	-	Narcotic effects
Solvent naphtha (petroleum), heavy arom.	Category 3	-	Narcotic effects
propan-2-ol; isopropanol	Category 3	-	Narcotic effects

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
toluene	Category 2	-	central nervous system (CNS)

Aspiration hazard

Name	Result
toluene	ASPIRATION HAZARD - Category 1
Solvent naphtha (petroleum), heavy arom.	ASPIRATION HAZARD - Category 1

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Stadis® 450	Acute LC50 12 mg/l	Fish	96 hours
toluene	Acute EC50 >433 ppm Marine water	Algae - *Skeletonema costatum*	96 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - *Gammarus pseudolimnaeus* - Adult	48 hours
	Acute EC50 6 mg/l	Daphnia	48 hours
	Acute LC50 15.5 ppm Marine water	Crustaceans - *Palaemonetes pugio* - Adult	48 hours
	Acute LC50 5.8 mg/l	Fish	96 hours

Section 12. Ecological information

	Chronic NOEC 1000 µg/l Fresh water	Daphnia - *Daphnia magna*	21 days
Solvent naphtha (petroleum), heavy arom.	Acute EC50 1 to 3 mg/l	Algae	72 hours
	Acute EC50 3 to 10 mg/l	Daphnia	48 hours
	Acute LC50 2 to 5 mg/l	Fish	96 hours
naphthalenesulfonic acid, dinonyl-	EC10 0.16 mg/l Fresh water	Algae - *Pseudokirchneriella subcapitata*	72 hours
propan-2-ol; isopropanol	Acute EC50 10100 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 1400000 to 1950000 µg/l Marine water	Crustaceans - *Crangon crangon*	48 hours
	Acute LC50 6550 mg/l	Fish	96 hours
	Acute LC50 4200 mg/l Fresh water	Fish - *Rasbora heteromorpha*	96 hours
naphthalene	Acute EC50 1.96 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 2350 µg/l Marine water	Crustaceans - *Palaemonetes pugio*	48 hours
	Acute LC50 1.6 mg/l	Fish	96 hours
	Chronic NOEC 0.5 mg/l Marine water	Crustaceans - *Uca pugnax* - Adult	3 weeks
	Chronic NOEC 1.5 mg/l Fresh water	Fish - *Oreochromis mossambicus*	60 days
Quaternary ammonium compound.	Acute EC50 0.06 mg/l	Algae	72 hours
	Acute LC50 0.26 mg/l	Fish	96 hours
	Acute NOEC 0.23 mg/l Fresh water	Fish - *Danio rerio*	96 hours

Persistence and degradability

Product/ingredient name	Test	Result
naphthalenesulfonic acid, dinonyl-	OECD 301B Ready Biodegradability - CO_2 Evolution Test	14 to 17 % - Not readily - 29 days
	OECD 310 Ready Biodegradability - CO_2 in Sealed Vessels (Headspace Test)	0 % - Not readily - 56 days
Quaternary ammonium compound.	OECD 301B Ready Biodegradability - CO_2 Evolution Test	4.3 % - Not readily - 28 days

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily
Solvent naphtha (petroleum), heavy arom.	-	-	Inherent
propan-2-ol; isopropanol	-	-	Readily
Quaternary ammonium compound.	-	-	Not readily

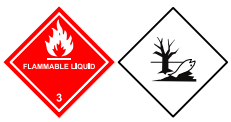
Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
toluene	2.65	90	Low
Solvent naphtha (petroleum), heavy arom.	-	<100	Low
naphthalenesulfonic acid, dinonyl-	>6.6	-	High
propan-2-ol; isopropanol	0.05	-	Low
naphthalene	3.4	36.5 to 168	Low

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. 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.

Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	UN1993	UN1993	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (toluene, isopropanol). Marine pollutant (Solvent naphtha (petroleum), heavy arom., naphthalene) RQ (toluene, naphthalene)	FLAMMABLE LIQUID, N.O.S. (toluene, isopropanol). Marine pollutant (Solvent naphtha (petroleum), heavy arom., naphthalene)	Flammable liquid, n.o.s. (toluene, isopropanol)
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Additional information	This product is not regulated as a marine pollutant when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes, provided the packagings meet the general provisions of §§ 173.24 and 173.24a. **Reportable quantity** 2736.3 lbs / 1242.3 kg [356.71 gal / 1350.3 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. **Emergency schedules** F-E, _S-E_ **Special provisions** 274	

Section 14. Transport information

	Limited quantity Yes. **Packaging instruction** Exceptions: 150. Non-bulk: 202. Bulk: 242. **Quantity limitation** Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L. **Special provisions** IB2, T7, TP1, TP8, TP28		

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
Clean Water Act (CWA) 307: toluene; naphthalene; benzene; chloromethane

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

DEA List II Chemicals (Essential Chemicals) : Listed

SARA 302/304

Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
sulphur dioxide	0 - 0.09	Yes.	500	-	500	-

SARA 304 RQ : 2236303.7 lbs / 1015281.9 kg [291531.6 gal / 1103567.3 L]

SARA 311/312

Classification : FLAMMABLE LIQUIDS - Category 2
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
CARCINOGENICITY - Category 2
TOXIC TO REPRODUCTION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
ASPIRATION HAZARD - Category 1

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	toluene	108-88-3	30 - 60
	isopropanol	67-63-0	0.99 - 4.99
	naphthalene	91-20-3	0.99 - 4.99
Supplier notification	toluene	108-88-3	30 - 60
	isopropanol	67-63-0	0.99 - 4.99
	naphthalene	91-20-3	0.99 - 4.99

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: TOLUENE; ISOPROPYL ALCOHOL; 2-PROPANOL; NAPHTHALENE

New York : The following components are listed: Toluene; Naphthalene

New Jersey : The following components are listed: TOLUENE; ISOPROPYL ALCOHOL; 2-PROPANOL; NAPHTHALENE; METHYL ALCOHOL

Pennsylvania : The following components are listed: BENZENE, METHYL-; 2-PROPANOL; NAPHTHALENE

California Prop. 65 : **WARNING**: This product can expose you to chemicals including Benzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. This product can expose you to chemicals including Naphthalene, which is known to the State of California to cause cancer, and Toluene, Methanol, sulfur dioxide and chloromethane; methyl chloride, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level	Contains : ppm (or %)
toluene	No.	Yes.		Yes.	30 - 60
naphthalene	Yes.	No.	Yes.		0.99 - 4.99
methanol	No.	Yes.		Yes.	0.09 - 0.99
sulphur dioxide	No.	Yes.		Yes.	≤300ppm
benzene	Yes.	Yes.	Yes.	Yes.	≤100ppm
chloromethane	No.	Yes.			≤10ppm

International lists

National inventory

Australia inventory (AIIC) : All components are listed or exempted.

Canada inventory : All components are listed or exempted.

China inventory (IECSC) : All components are listed or exempted.

EU REACH Status : Please contact your supplier for information on the inventory status of this material.

Japan inventory : All components are listed or exempted.

Korea REACH Status : Please contact your supplier for information on the inventory status of this material.

New Zealand Inventory of Chemicals (NZIoC) : All components are listed or exempted.

Philippines inventory (PICCS) : All components are listed or exempted.

Taiwan REACH Status : Please contact your supplier for information on the inventory status of this material.

Section 15. Regulatory information

Turkey REACH Status : Please contact your supplier for information on the inventory status of this material.

UK REACH Status : Please contact your supplier for information on the inventory status of this material.

United States inventory (TSCA 8b) : All components are listed or exempted.

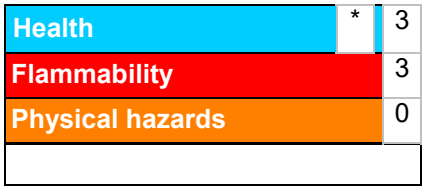
Vietnam inventory : All components are listed or exempted.

Our REACH registrations DO NOT cover the following:
1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and
2. The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our registrations
Customers and other third parties importing and/or re-importing our products into Europe will need either:
- Their own registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or
- In the case of importation only, to make use of the "Only Representative" provisions, if available.

Not to be used for hydraulic fracking applications

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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

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History

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Section 16. Other information

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

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