

SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US - OSHA Hazard Communication Standard (29 CFR 1910.1200)

Issuing Date 17-Dec-2020

Revision Date 17-Dec-2020

Revision Number 1

1. Identification

Product identifier

Product Name Diffusive Badge Proficiency Test Item - SKC, Inc./575-002

Other means of identification

Synonyms Organic solvents on diffusive badges

Recommended use of the chemical and restrictions on use

Recommended use For research use only

Restrictions on use For professional use only

Details of the supplier of the safety data sheet

Supplier Address

RTI International
3040 E. Cornwallis Rd.
Research Triangle Park, NC 27709
919-541-6233

E-mail EHS@RTI.ORG

Emergency telephone number

Emergency telephone 919-541-6233

2. Hazard(s) identification

Classification

This article is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Hazards not otherwise classified (HNOC)

Not applicable.

Label elements

Hazard statements

Not classified.

Other information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture**Synonyms** Organic solvents on diffusive badges

Chemical name	CAS No	Weight-%	Trade secret
Sorbent materials	-	Balance	*
Toluene	108-88-3	0-0.08	*
o-Xylene	95-47-6	0-0.08	*
Benzene	71-43-2	0-0.08	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures**Description of first aid measures**

Inhalation	Not an expected route of exposure. IF INHALED: Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids.
Skin contact	Wash skin with soap and water.
Ingestion	Not an expected route of exposure. IF SWALLOWED: Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed**Symptoms** None known.**Indication of any immediate medical attention and special treatment needed****Note to physicians** Treat symptomatically.**5. Fire-fighting measures**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None known based on information supplied.
Specific hazards arising from the chemical	None known based on information supplied.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions None under normal use conditions.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³
o-Xylene 95-47-6	STEL: 150 ppm TWA: 100 ppm	-	IDLH: 900 ppm TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 655 mg/m ³
Benzene 71-43-2	STEL: 2.5 ppm TWA: 0.5 ppm S*	TWA: 10 ppm applies to industry segments exempt from the benzene standard at 29 CFR 1910.1028 TWA: 1 ppm (vacated) TWA: 10 ppm unless specified in 1910.1028 (vacated) STEL: 50 ppm 10 min unless specified in 1910.1028 (vacated) Ceiling: 25 ppm unless specified in 1910.1028 Ceiling: 25 ppm STEL: 5 ppm see 29 CFR 1910.1028	IDLH: 500 ppm TWA: 0.1 ppm STEL: 1 ppm

Biological occupational exposure limits

Chemical name	ACGIH
Toluene 108-88-3	0.02 mg/L - blood (Toluene) - prior to last shift of workweek 0.03 mg/L - urine (Toluene) - end of shift

	0.3 mg/g creatinine - urine (o-Cresol with hydrolysis) - end of shift
o-Xylene 95-47-6	1.5 g/g creatinine - urine (Methylhippuric acids) - end of shift
Benzene 71-43-2	25 µg/g creatinine - urine (S-Phenylmercapturic acid) - end of shift 500 µg/g creatinine - urine (t,t-Muconic acid) - end of shift

Appropriate engineering controls

Engineering controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection No special protective equipment required.

Skin and body protection No special protective equipment required.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Appearance Clear glass tube with black charcoal inside
 Physical state Solid
 Color Black
Odor None
Odor threshold No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties No information available.
Oxidizing properties No information available.
Softening point No information available

Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	None.
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Acute toxicity

Numerical measures of toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
o-Xylene 95-47-6	= 3608 mg/kg (Rat)	= 14100 mg/kg (Rabbit)	= 4330 ppm (Rat) 6 h
Benzene 71-43-2	= 810 mg/kg (Rat)	> 8200 mg/kg (Rabbit)	= 44.66 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No known mutagens are present at greater than 0.1%.
Carcinogenicity	No known carcinogens are present at greater than 0.1%.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Toluene 108-88-3	-	Group 3	-	-
o-Xylene 95-47-6	-	Group 3	-	-
Benzene 71-43-2	A1	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity No known reproductive toxins are present at greater than 0.1%.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity The environmental impact of this product has not been fully investigated.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Toluene 108-88-3	EC50: =12.5mg/L (72h, Pseudokirchneriella subcapitata) EC50: >433mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 11.0 - 15.0mg/L (96h, Lepomis macrochirus) LC50: 14.1 - 17.16mg/L (96h, Oncorhynchus mykiss) LC50: 15.22 - 19.05mg/L (96h, Pimephales promelas) LC50: 5.89 - 7.81mg/L (96h, Oncorhynchus mykiss) LC50: 50.87 - 70.34mg/L (96h, Poecilia reticulata) LC50: =12.6mg/L (96h, Pimephales promelas) LC50: =28.2mg/L (96h, Poecilia reticulata) LC50: =5.8mg/L (96h, Oncorhynchus mykiss) LC50: =54mg/L (96h, Oryzias latipes)	-	EC50: 5.46 - 9.83mg/L (48h, Daphnia magna) EC50: =11.5mg/L (48h, Daphnia magna)
o-Xylene 95-47-6	EC50: =4.7mg/L (72h, Pseudokirchneriella	LC50: 11.6 - 22.4mg/L (96h, Lepomis	-	EC50: 0.78 - 2.51mg/L (48h, Daphnia magna)

	subcapitata)	macrochirus) LC50: 11.6 - 22.4mg/L (96h, Pimephales promelas) LC50: 5.59 - 11.6mg/L (96h, Oncorhynchus mykiss) LC50: =12mg/L (96h, Poecilia reticulata)		EC50: 2.61 - 5.59mg/L (48h, Daphnia magna) EC50: =3.2mg/L (48h, Daphnia magna)
Benzene 71-43-2	EC50: =29mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 10.7 - 14.7mg/L (96h, Pimephales promelas) LC50: 22330 - 41160µg/L (96h, Pimephales promelas) LC50: 70000 - 142000µg/L (96h, Lepomis macrochirus) LC50: =22.49mg/L (96h, Lepomis macrochirus) LC50: =28.6mg/L (96h, Poecilia reticulata) LC50: =5.3mg/L (96h, Oncorhynchus mykiss)	-	EC50: 8.76 - 15.6mg/L (48h, Daphnia magna) EC50: =10mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Toluene 108-88-3	2.7
o-Xylene 95-47-6	3.12
Benzene 71-43-2	2.1

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

RCRA (Resource Conservation and Recovery Act) waste information

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Toluene 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151	-	U220
Benzene 71-43-2	U019	Included in waste streams: F005, F024, F025, F037, F038, F039, K085, K104, K105, K141, K142, K143, K144, K145, K147, K151, K159, K169, K171, K172	0.5 mg/L regulatory level	U019

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Toluene 108-88-3	-	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	-
Benzene 71-43-2	-	-	no data delivered	no data delivered

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Toluene 108-88-3	Toxic Ignitable
Benzene 71-43-2	Toxic Ignitable

14. Transport information

DOT Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International Inventories

TSCA Contact supplier for inventory compliance status.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Toluene - 108-88-3	1.0
o-Xylene - 95-47-6	1.0

Benzene - 71-43-2	0.1
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SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X
o-Xylene 95-47-6	-	-	-	X
Benzene 71-43-2	10 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Toluene 108-88-3	1000 lb	-
o-Xylene 95-47-6	1000 lb	-
Benzene 71-43-2	10 lb	-

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Toluene - 108-88-3	Developmental
Benzene - 71-43-2	Carcinogen Developmental Male Reproductive

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Toluene 108-88-3	X	X	X
Benzene 71-43-2	X	X	X
o-Xylene 95-47-6	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	Health hazards 0	Flammability 0	Instability 0	Special hazards -
HMIS	Health hazards 0	Flammability 0	Physical hazards 0	Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

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Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet