

SAFETY DATA SHEET

Preparation Date: 2/14/2018

Revision Date: 2/14/2018

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: P1082
Product Name: PHENYL ISOCYANATE

Other means of identification

Synonyms: Isocyanic acid, phenyl ester
 Phenylcarbimide
 Phenyl carbonimide
CAS #: 103-71-9
RTECS # DA3675000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 1
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Flammable liquids	Category 3

Label elements

Danger

Hazard statements

Product code: P1082

Product name: PHENYL
ISOCYANATE

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Harmful if swallowed
Fatal if inhaled
Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May polymerize on contact with water

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing must not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/.../equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
In case of fire: Use CO₂, dry chemical, or foam to extinguish.
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/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Phenyl Isocyanate	103-71-9	100

4. FIRST AID MEASURES**First aid measures**

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Remove all contaminated clothes and shoes. Continue flushing with plenty of water for at least 15 minutes. Call a physician or Poison Control Centre immediately.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
- Ingestion:** If swallowed, seek medical advice immediately and show this container or label.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Severe skin and eye irritation or burns
 - May cause an allergic skin reaction
 - May cause allergic respiratory reaction
 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 - Causes digestive (gastrointestinal) tract irritation
 - May cause gastrointestinal (digestive) tract burns
 - May cause abdominal pain, nausea, vomiting, diarrhea
 - Dyspnea (Shortness of breath and difficulty breathing)
 - Coughing and wheezing
 - May cause cyanosis
 - May cause pulmonary edema
 - Lacrimation

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES**Extinguishing Media**

- Suitable Extinguishing Media:** Carbon dioxide (CO2). Dry chemical. Alcohol-resistant

foam. Water spray.

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire. If it is involved in fire, do not use water on material itself.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon Monoxide, Carbon Dioxide. Nitrogen Oxides. Hydrogen cyanide.

Specific hazards:

Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Moisture sensitive. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Acids
Strong bases
Alcohols
Amines
Water

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Phenyl Isocyanate	103-71-9	None	None	0.015 ppm STEL 0.005 ppm TWA	None

Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Phenyl Isocyanate	103-71-9	None	0.005 ppm TWA 0.01 ppm Ceiling	0.005 ppm TWA Isocyanates, organic compounds 0.005 ppm TWA 0.015 ppm STEL	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
Phenyl Isocyanate	103-71-9	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Face-shield or Goggles
Skin and body protection:	Long sleeved clothing Chemical resistant apron Gloves
Respiratory protection:	Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Use under a chemical fume hood.
Hygiene measures:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: No information available.	Color: Colorless to pale yellow.
Odor: Acrid.	Taste No information available.	Formula: C7-H5-N-O
Molecular/Formula weight: 119.13	Flammability: Flammable	Flashpoint (°C/°F): 55.5 °C/132 °F
Flash Point Tested according to: Closed cup	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): -30 °C/-22 °F	Decomposition temperature(°C/°F): No information available
Boiling point/range(°C/°F): 158-168 °C/316.4-334.4 °F	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 1.0956 @ 20 deg. C	pH: No information available	Vapor pressure @ 20°C (kPa): 0.34 @ 25 °C
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): 0.054-3.9 (low - detection in air) 53 (irritating concentration) 300 (noticeably irritating to eyes)	Partition coefficient (n-octanol/water): log Kow = 2.59	Viscosity: No information available
Miscibility: No information available	Solubility: Decomposes in contact with water. Very soluble in Ether	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reacts with strong bases
Reactive with acids
Has exploded when stirred with cobalt pentammine triazoperchlorate +nitrosyl perchlorate

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Exposure to water.

Incompatible Materials: Oxidizing agents
Acids
Strong bases
Alcohols
Amines
Water

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. Hydrogen cyanide. Nitrogen oxides (NOx).

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Ingestion. Inhalation. Eyes.

Acute Toxicity

Component Information

Phenyl Isocyanate	
CAS-No.	103-71-9

LD50/oral/rat = 172 mg/kg Oral LD50 Rat(LOLI and European Chemicals Bureau IUCLID data set); 800 mg/kg (RTECS)

LD50/oral/mouse = 196 mg/kg

LD50/dermal/rabbit = 7130 mg/kg Dermal LD50Rabbit

LD50/dermal/rat = 5 mL/kg Dermal LD50 Rat

LC50/inhalation/rat = 22 mg/m³ Inhalation LC50 Rat 4 h

LC50/inhalation/mouse = No information available

Other LD50 or LC50information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 800 mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 196 mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = 7130 mg/kg

LD50/dermal/rat**VALUE -Acute Tox Dermal = 5 ml/kg****LC50/inhalation/rat****VALUE-Vapor = 0.022 mg/l (4-hr)****VALUE-Gas = No information available****VALUE-Dust/Mist = No information available****LC50/Inhalation/mouse****VALUE-Vapor = No information available****VALUE - Gas = No information available****VALUE - Dust/Mist = No information available****Symptoms****Skin Contact:** Causes severe irritation and burns. It may be absorbed through the skin.**Eye Contact:** Causes severe irritation and burns. Causes lacrimation. Possible eye damage.**Inhalation** Fatal if inhaled. Symptoms may include coughing and wheezing, and shortness of breath. May cause nausea. It may cause pulmonary edema. May cause cyanosis. May affect behavior/central nervous system (somnolence).**Ingestion** Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. May cause digestive (gastrointestinal) tract burns. May cause abdominal pain, nausea, vomiting, diarrhea.**Aspiration hazard** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Chronic Toxicity** Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis). Inhalation: May cause allergic respiratory reaction (occupational asthma). Prolonged or repeated inhalation may cause asthma-like allergy and asthma attacks with shortness of breath, difficulty breathing, wheezing, coughing, and/or chest tightness.**Sensitization:** May cause sensitization by inhalation and skin contact.**Mutagenic Effects:** No information available**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Phenyl Isocyanate	103-71-9	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)**IARC (International Agency for Research on Cancer)**NTP (National Toxicology Program)**OSHA (Occupational Safety and Health Administration of the US Department of Labor)***Reproductive toxicity** No data is available**Reproductive Effects:** No information available**Product code:** P1082**Product name:** PHENYL
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Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Phenyl Isocyanate	103-71-9	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2487
Proper Shipping Name: Phenyl isocyanate
Hazard Class: 6.1
Subsidiary Class: 3
Packing group: I
Emergency Response Guide Number 155
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions 2 (Poison by inhalation Hazard Zone B), B9, B14, B32, B77, N33, N34, T20, TP2, TP13, TP38, TP45
Symbol(s): No information available
Description: UN2487, Phenyl isocyanate, 6.1 (3), I

TDG (Canada)

UN-No: Forbidden
Proper Shipping Name: No information available

Product code: P1082

Product name: PHENYL
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Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available
Description: Forbidden

ADR

UN-No: UN2487
Proper Shipping Name: Phenyl isocyanate
Hazard Class: 6.1
Packing Group: I
Subsidiary Risk: No information available
Special Provisions 354
Description: UN2487, Phenyl isocyanate, 6.1 (3), I

IMO / IMDG

UN-No: UN2487
Proper Shipping Name: Phenyl isocyanate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: I
Marine Pollutant No information available
EMS: F-E
Special Provisions 354
Description UN2487, Phenyl isocyanate, 6.1 (3), I

RID

UN-No: UN2487
Proper Shipping Name: Phenyl isocyanate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: I
Special Provisions 354
Description: UN2487, Phenyl isocyanate, 6.1 (3), I

ICAO

UN-No: Forbidden
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: Forbidden

IATA

UN-No: Forbidden
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions No information available
Description: Forbidden

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines	Japan ENCS	CHINA	Australia	EINECS-No.
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Product code: P1082

Product name: PHENYL
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				(PICCS)			(AICS)	
<i>Phenyl Isocyanate</i>	103-71-9	PresentACTIV E	Present KE-21463	Present	Present (3)-2213	Present	Present	Present 203-137-6

U.S. Regulations

Phenyl Isocyanate

New Jersey RTK Hazardous Substance List: 1501

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Phenyl Isocyanate	103-71-9	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
<i>Phenyl Isocyanate</i>	103-71-9	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Phenyl Isocyanate	103-71-9	Not Applicable	10/29/199006/30/1998

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Phenyl Isocyanate
103-71-9 (100)

WHMIS 2015 Hazard Classification
Flammable liquids - Category 3 Flammable liquid and vapor (H226); Skin corrosion/irritation - Category 2 Causes skin irritation (H315); Serious eye damage/eye irritation - Category 2 Causes serious eye irritation (H319); Skin sensitization - Category 1 May cause allergic skin reaction (H317)

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

B3 Combustible liquid
D1A Very toxic materials
D2B Toxic materials

Components
Phenyl Isocyanate

WHMIS 1988
B3,D1A,D2B

Product code: P1082

Product name: PHENYL
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Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Phenyl Isocyanate	0.1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Phenyl Isocyanate	103-71-9	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Phenyl Isocyanate	103-71-9	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Phenyl Isocyanate	103-71-9	Not listed

EU Classification**EU GHS - SV - CLP 1272/2008**

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Phenyl Isocyanate	103-71-9	No information

EU - CLP (1272/2008)**R-phrase(s)**

R10 - Flammable.
R22 - Harmful if swallowed.
R26 - Very toxic by inhalation.
R42/43 - May cause sensitization by inhalation and skin contact.

S -phrase(s)

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S24 - Avoid contact with skin.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Phenyl Isocyanate	103-71-9		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

C - Corrosive.
T+ - Very toxic.
Xn - Harmful.
Xi - Irritant.
Flammable

16. OTHER INFORMATION

Preparation Date: 2/14/2018
Revision Date: 2/14/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product

is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet