

SAFETY DATA SHEET

spectrum®



Revision date 31-January-2022

Revision Number 2

1. Identification

Product identifier

Product Name BENZENE, REAGENT, ACS

Other means of identification

Product Code(s) B1070

UN/ID no UN1114

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

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

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

| | |
|--|-------------|
| Acute toxicity - Oral | Category 4 |
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |
| Germ cell mutagenicity | Category 1A |
| Carcinogenicity | Category 1A |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration hazard | Category 1 |
| Flammable liquids | Category 2 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful if swallowed
 Causes skin irritation
 Causes serious eye irritation
 May cause genetic defects
 May cause cancer
 May cause damage to organs through prolonged or repeated exposure
 May be fatal if swallowed and enters airways
 Highly flammable liquid and vapor

**Appearance** Clear**Physical state** Liquid**Odor** Aromatic**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Wear protective gloves/protective clothing/eye protection/face protection
 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
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see .? on this label)
 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 advice/attention
 If skin irritation occurs: Get medical advice/attention
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
 Wash contaminated clothing before reuse
 IF SWALLOWED: Immediately call a POISON CENTER or doctor
 Do NOT induce vomiting
 Rinse mouth
 In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Toxic to aquatic life with long lasting effects. Toxic to aquatic life.

3. Composition/information on ingredients**Substance**

| Chemical name | CAS No | Weight-% | Trade secret |
|---------------|---------|----------|--------------|
| Benzene | 71-43-2 | 100 | * |

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

4. First-aid measures

Description of first aid measures

| | |
|---|--|
| General advice | Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. Immediate medical attention is required. |
| Inhalation | Aspiration into lungs can produce severe lung damage. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical advice/attention. Delayed pulmonary edema may occur. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists. |
| Ingestion | Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Get immediate medical advice/attention. |
| Self-protection of the first aider | Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin, eyes or clothing. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--|
| Symptoms | Difficulty in breathing. Coughing and/ or wheezing. Dizziness. May cause redness and tearing of the eyes. Burning sensation. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|---|
| Note to physicians | Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. |
|---------------------------|---|

5. Fire-fighting measures

| | |
|--|---|
| Suitable Extinguishing Media Large Fire | Dry chemical. Carbon dioxide (CO ₂). water spray. Alcohol resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. |
| Specific hazards arising from the chemical | risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Hazardous combustion products | Carbon Monoxide, Carbon Dioxide. |
| Explosion data | |
| Sensitivity to mechanical impact | none. |
| Sensitivity to static discharge | yes. |

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

Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Other information

Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Use personal protection equipment. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Keep out of the reach of children. Store locked up. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|--------------------|-------------------|-------------------------|------------|
| Benzene 71-43-2 | No data available | 10 ppm TWA 1 ppm TWA | - |

| | | | |
|--|--|------------------------------|--|
| | | 25 ppm Ceiling 5 ppm STEL | |
|--|--|------------------------------|--|

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles.

Hand protection Wear suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Antistatic boots.

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 Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Clear
Color Colorless
Odor Aromatic
Odor threshold No information available

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|---|-------------------------|
| pH | no data available | None known |
| Melting point / freezing point | 5.5 °C / 41.9 °F | None known |
| Boiling point / boiling range | 80 °C / 176 °F | None known |
| Flash point | -11 °C / 12.2 °F | CC (closed cup) |
| Evaporation rate | no data available | None known |
| Flammability (solid, gas) | 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 | 10 | None known |
| Vapor density | no data available | None known |
| Relative density | 0.88 | None known |
| Water solubility | Sparingly soluble in water | None known |
| Solubility(ies) | Miscible with alcohol Miscible with Carbon disulfide Miscible with Acetone Miscible with many organic solvents | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | no data available | None known |
| Decomposition temperature | | 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 (%) | 99+ % .? |
| Liquid Density | No information available |
| Bulk density | No information available |

10. Stability and reactivity

| | |
|---|--|
| Reactivity | No information available. |
| Chemical stability | Stable under normal conditions. |
| Possibility of hazardous reactions | None under normal processing. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong acids. Strong bases. Strong oxidizing agents. |
| Hazardous decomposition products | None known based on information supplied. |

11. Toxicological information

Information on likely routes of exposure

Product Information

| | |
|---------------------|---|
| Inhalation | Specific test data for the substance or mixture is not available. Aspiration into lungs can produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be fatal. May cause irritation of respiratory tract. |
| Eye contact | Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation. |
| Skin contact | Repeated exposure may cause skin dryness or cracking. Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). |
| Ingestion | Specific test data for the substance or mixture is not available. Potential for aspiration if swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. (based on components). |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|-----------------|--|
| Symptoms | Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness and tearing of the eyes. |
|-----------------|--|

Acute toxicity

Numerical measures of toxicity

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|--------------------|--------------------|-------------|-------------------------------|
| Benzene 71-43-2 | 1800 mg/kg (Rat) | - | 13050 - 14380 ppm (Rat) 4 h |

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

| | |
|--|--|
| Skin corrosion/irritation | Classification based on data available for ingredients. Irritating to skin. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Causes serious eye irritation. |

Respiratory or skin sensitization No information available.
Germ cell mutagenicity Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.
Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

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

| Chemical name | ACGIH | IARC | NTP | OSHA |
|--------------------|-------|--|-----|------|
| Benzene 71-43-2 | - | IARC Group 1- Carcinogenic - Monograph 100F [2012] Supplement 7 [1987] Monograph 29 [1982] | - | - |

Legend

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target organ effects respiratory system, Eyes, Skin, central nervous system, blood, bone marrow.
Aspiration hazard May be fatal if swallowed and enters airways.
Other adverse effects No information available.
Interactive effects No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|--------------------|--|--|----------------------------|---|
| 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 Inherently biodegradable.

Component Information

| Chemical name | Partition coefficient |
|--------------------|-----------------------|
| Benzene 71-43-2 | 2.1 |

Other adverse effects No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused Should not be released into the environment. Dispose of in accordance with local

| | |
|-------------------------------|---|
| products | regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. |

14. Transport information

DOT
UN/ID no UN1114
Proper Shipping Name: Benzene
Hazard class 3
Packing group: II
Description: UN1114,Benzene ,3,,PG II

TDG
UN-No: UN1114
Proper Shipping Name: Benzene
Hazard class 3
Packing Group: II
Description: BENZENE,3,UN1114,PG II

MEX not regulated

ICAO (air)
UN-No: UN1114
Proper Shipping Name: Benzene
Hazard class 3
Packing Group: II
Description: Benzene,3,UN1114,PG II

IATA
UN number UN1114
Proper Shipping Name: Benzene
Transport hazard class(es) 3
Packing group II
Description: UN1114,Benzene,3,PG II

IMDG not regulated

RID
UN number UN1114
Proper Shipping Name: Benzene
Transport hazard class(es) 3
Packing group II
Description: UN1114 Benzene,3,II,RID

ADR
UN number UN1114
Proper Shipping Name: Benzene
Transport hazard class(es) 3
Packing group II
Description: UN1114 Benzene,3,II

ADN not regulated

15. Regulatory information

International Inventories

TSCA Complies

| | |
|----------------------|---|
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | This product complies with ENCS: |
| IECSC | This product complies with China: |
| KECL | Complies |
| PICCS | Complies |
| AICS | All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS). |

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances

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 % |
|-------------------|-------------------------------|
| Benzene - 71-43-2 | 0.1 |

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 does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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 |
|--------------------|------------------------------------|------------------------------------|
| Benzene 71-43-2 | 10 lb final RQ 4.54 kg final RQ | - |

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

| Chemical name | California Proposition 65 |
|-------------------|--|
| Benzene - 71-43-2 | developmental toxicity male reproductive toxicity carcinogen |

U.S. State Right-to-Know Regulations

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|--------------------|------------|---------------|---|
| Benzene 71-43-2 | 0197 | Present | Environmental hazard Special hazardous substance |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA

Health hazards 2

Flammability 3

Instability 0

Physical and chemical properties -

HMIS

Health hazards 2*

Flammability 3

Physical hazards 0

Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

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 | | |

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

Revision date 31-January-2022

Revision Note No information available.

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