



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **Shot Defender 70 Part A**

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses general use

#### 1.3 Details of the supplier of the safety data sheet

TSE Industries, Inc.  
5180 113th Avenue North  
Clearwater, FL, 33760  
United States  
Telephone: +1 727-573-7676  
e-mail: SDSinquiry@tseind.com  
Website: www.TSE-Industries.com

#### 1.4 Emergency telephone number

Emergency contacts This number is only available during the following office hours: 24/7

Poison center		
Country	Name	Telephone
international	Infotrac®-International	+1-352-323-3500 (24/7)
United States	Infotrac®	+1-800-535-5053 (24/7)

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.1I	acute toxicity (inhal.)	3	Acute Tox. 3	H331
A.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	serious eye damage/eye irritation	2	Eye Irrit. 2	H319
A.4R	respiratory sensitization	1	Resp. Sens. 1	H334
A.4S	skin sensitization	1	Skin Sens. 1	H317
A.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16.

#### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

- Signal word      danger

- Pictograms

GHS06, GHS07, GHS08



- Hazard statements

H315      Causes skin irritation.  
H317      May cause an allergic skin reaction.  
H319      Causes serious eye irritation.  
H331      Toxic if inhaled.  
H334      May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335      May cause respiratory irritation.

- Precautionary statements

P261      Avoid breathing dust/fume/gas/mist/vapors/spray.  
P271      Use only outdoors or in a well-ventilated area.  
P272      Contaminated work clothing must not be allowed out of the workplace.  
P280      Wear protective gloves.  
P284      In case of inadequate ventilation wear respiratory protection.  
P302+P352      If on skin: Wash with plenty of water.  
P304+P340      If inhaled: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338      If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321      Specific treatment (see on this label).  
P342+P311      If experiencing respiratory symptoms: Call a poison center/doctor.  
P362+P364      Take off contaminated clothing and wash it before reuse.  
P403+P233      Store in a well-ventilated place. Keep container tightly closed.  
P405      Store locked up.  
P501      Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling

4,4'-methylenedicyclohexyl diisocyanate

### 2.3 Other hazards

Hazards not otherwise classified

Contains isocyanates. May produce an allergic reaction.  
Toxic to aquatic life (GHS category 2: aquatic toxicity - acute).

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of  $\geq 0.1\%$ .

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq 0.1\%$ .

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant, polymer

### 3.2 Mixtures



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

### Description of the mixture

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Name of substance	Wt%	Classification acc. to GHS
4,4'-methylenedicyclohexyl diisocyanate	75 - < 90	Acute Tox. 2 / H330 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Resp. Sens. 1 / H334 Skin Sens. 1 / H317 STOT SE 3 / H335

### Remarks

Specific chemical identity and/ or concentration or concentration range of composition have been withheld as a trade secret of TSE

For full text of abbreviations: see SECTION 16

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

#### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

#### Following skin contact

Wash with plenty of soap and water.

#### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

### 4.3 Indication of any immediate medical attention and special treatment needed

none

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

#### Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

Hazardous combustion products

Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder, Sweep up material into an approved container for disposal. Seal the container and dispose according to instructions in Section 13 of this SDS. Avoid dust generation.

Appropriate containment techniques

Use of adsorbent materials.

Equipment required for containment/clean-up

Non-sparking tools and equipment, Collecting container

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

- Specific notes/details

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

- Measures to protect the environment

Avoid release to the environment. Do not empty into drains; dispose of this material and its container in a safe way.



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

## 7.2 Conditions for safe storage, including any incompatibilities

### Managing of associated risks

#### - Explosive atmospheres

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

#### - Ventilation requirements

Keep any substance that emits harmful vapors or gases in a place that allows these to be permanently extracted.

#### - Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

## 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Specific exposure limits have not been established. Personal and workplace atmosphere monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity of using respiratory protection.

#### Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	4,4'-methylenedicyclohexyl diisocyanate	TLV®	0.005	0.054						ACGIH® 2025

#### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

#### Relevant DNELs of components

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	0.3 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
DNEL	0.6 mg/m³	human, inhalatory	worker (industry)	acute - local effects



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

Relevant PNECs of components				
Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	0.005 mg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.001 mg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	1.91 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	21.75 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	2.175 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	4.3 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	colorless
Odor	slight
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

	readily
Lower and upper explosion limit	not determined
Flash point	210 °C, 410 °F
Auto-ignition temperature	225 °C (auto-ignition temperature (liquids and gases))
pH (value)	not determined
Kinematic viscosity	not determined
Solubility(ies)	not determined

### Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
---------------------------------------------------	-----------------------------------

Vapor pressure	not determined
----------------	----------------

### Density and/or relative density

Density	not determined
Relative vapour density	information on this property is not available

Particle characteristics	not relevant (liquid)
--------------------------	-----------------------

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 conditions to avoid

**Hints to prevent fire or explosion** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid dust formation.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

###### Acute toxicity

Toxic if inhaled.

###### - Acute toxicity estimate (ATE)

Inhalation: vapor 2.097 mg/l/4h

###### Acute toxicity estimate (ATE) of components

Name of substance	Exposure route	ATE
4,4'-methylenedicyclohexyl diisocyanate	inhalation: vapor	1.736 mg/l/4h
4,4'-methylenedicyclohexyl diisocyanate	inhalation: dust/mist	0.434 mg/l/4h

###### Skin corrosion/irritation

Causes skin irritation.

###### Serious eye damage/eye irritation

Causes serious eye irritation.

###### Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

###### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

###### Carcinogenicity

Shall not be classified as carcinogenic.

###### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

###### Specific target organ toxicity - single exposure

May cause respiratory irritation.

###### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

###### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Toxic to aquatic life.



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

Aquatic toxicity (acute) of components				
Name of substance	Endpoint	Value	Species	Exposure time
4,4'-methylenedicyclohexyl diisocyanate	ErC50	>5 mg/l	algae	72 h
4,4'-methylenedicyclohexyl diisocyanate	EC50	>5 mg/l	algae	72 h

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of ≥ 0.1%.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number

DOT	UN 3082
ICAO-TI	UN 3334

### 14.2 UN proper shipping name

DOT Other regulated substances, liquid, n.o.s.

ICAO-TI Aviation regulated liquid, n.o.s.

Technical name (hazardous ingredients) 4,4'-methylenedicyclohexyl diisocyanate

### 14.3 Transport hazard class(es)



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

DOT 9

ICAO-TI 9

### 14.4 Packing group

DOT III

ICAO-TI III

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

There is no additional information.

### 14.7 Transport in bulk according to IMO instruments

There is no additional information.

#### Information for each of the UN Model Regulations

##### **Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information**

Particulars in the shipper's declaration UN3082, Other regulated substances, liquid, n.o.s., 9, III

Danger label(s) 9, fish and tree



ERG No 171

##### **International Maritime Dangerous Goods Code (IMDG) - Additional information**

not assigned

##### **International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Danger label(s) 9



Special provisions (SP) A27

Excepted quantities (EQ) E1

Limited quantities (LQ) 30 kg

Passenger and cargo aircraft 450 L

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### **National regulations (United States)**

**Toxic Substance Control Act (TSCA)** all ingredients are listed (ACTIVE) or exempt from listing

**Superfund Amendment and Reauthorization Act (SARA TITLE III )**



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)  
none of the ingredients are listed
- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	CAS No	Remarks	Effective date
4,4'-methylenedicyclohexyl diisocyanate	5124-30-1		1995-01-01

### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)  
none of the ingredients are listed

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

### Industry or sector specific available guidance(s)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	2	temporary or minor injury may occur
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

#### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	2	material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### Additional information

The product is compliant with the REACH regulation

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

### SECTION 16: Other information, including date of preparation or last revision

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH® 2025	From ACGIH®, 2025 TLVs® and BEIs® Book. Copyright 2025. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a>
Acute Tox.	Acute toxicity
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
ED	Endocrine disruptor
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Resp. Sens.	Respiratory sensitization
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitization



# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## Shot Defender 70 Part A

Version number: 1.2

Date of compilation: 2025-12-17

Abbr.	Descriptions of used abbreviations
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.