

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

**1 Identification****- Product identifier****- Trade name:** Thermal Defender®**- Synonyms:** TD-97**- Part number:** TD97**- Relevant identified uses of the substance or mixture** Part masking / protection**- Details of the supplier of the safety data sheet****- Manufacturer/Supplier:**ND Industries, Inc  
1000 North Crooks Road  
Clawson, MI 48017  
USA

Telephone: +1-248-288-0000

Email: info@ndindustries.com

Website: www.ndindustries.com

**- Information department:** Product safety department**- Emergency telephone number:**

United States: 1-800-424-9300

International: +1-703-527-3887

**2 Hazard(s) identification****- Classification of the substance or mixture**

GHS02 Flame

Flam. Aerosol 2 H223-H229 Flammable aerosol. Pressurized container: May burst if heated.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

**- Label elements****- GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**- Hazard pictograms**

GHS02 GHS07

**- Signal word** Warning**- Hazard-determining components of labeling:**

acetone

**- Hazard statements**

H223-H229 Flammable aerosol. Pressurized container: May burst if heated.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

**- Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P251 Pressurized container: Do not pierce or burn, even after use.

P211 Do not spray on an open flame or other ignition source.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear eye protection / face protection.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

P405 Store locked up.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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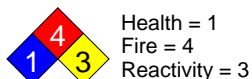
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## - Classification system:

### - NFPA ratings (scale 0 - 4)



### - HMIS-ratings (scale 0 - 4)



## - Other hazards

### - Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## \* 3 Composition/information on ingredients

### - Chemical characterization: Mixtures

- **Description:** Mixture of the substances listed below with nonhazardous additions.

### - Dangerous components:

67-64-1	acetone	70-80%
	Cellulose Acetate Butyrate	1-5%

## 4 First-aid measures

### - Description of first aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## \* 5 Fire-fighting measures

### - Extinguishing media

#### - Suitable extinguishing agents:

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

#### - For safety reasons unsuitable extinguishing agents:

Water with full jet

- **Special hazards arising from the substance or mixture** No further relevant information available.

### - Advice for firefighters

#### - Protective equipment:

Wear self-contained respiratory protective device.  
Wear fully protective suit.

## \* 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Wear protective clothing.

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

### - Methods and material for containment and cleaning up:

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Dispose of the collected material according to regulations.

### - Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### - Handling:

- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

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**- Information about protection against explosions and fires:**

Do not spray on a naked flame or any incandescent material.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.

**- Conditions for safe storage, including any incompatibilities****- Storage:****- Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Observe official regulations on storing packagings with pressurized containers.

**- Information about storage in one common storage facility:** Not required.**- Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

**- Specific end use(s)** No further relevant information available.**\* 8 Exposure controls/personal protection****- Additional information about design of technical systems:** No further data; see item 7.**- Control parameters****- Components with limit values that require monitoring at the workplace:****67-64-1 acetone**PEL Long-term value: 2400 mg/m<sup>3</sup>, 1000 ppmREL Long-term value: 590 mg/m<sup>3</sup>, 250 ppmTLV Short-term value: (1782) NIC-1187 mg/m<sup>3</sup>, (750) NIC-500 ppmLong-term value: (1188) NIC-594 mg/m<sup>3</sup>, (500) NIC-250 ppm

BEI

**- Ingredients with biological limit values:****67-64-1 acetone**

BEI 50 mg/L

Medium: urine

Time: end of shift

Parameter: Acetone (nonspecific)

**- Additional information:** The lists that were valid during the creation were used as basis.**- Exposure controls****- Personal protective equipment:****- General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

**- Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**- Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**- Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**- Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**- Eye protection:**

Tightly sealed goggles

**- Body protection:** Protective work clothing

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## 9 Physical and chemical properties

<b>- Information on basic physical and chemical properties</b>	
<b>- General Information</b>	
<b>- Appearance:</b>	
- Form:	Suspension
- Color:	Grey
- Odor:	Acetone-like
- Odour threshold:	Not determined.
- pH-value:	Not determined.
<b>- Change in condition</b>	
- Melting point/Melting range:	Undetermined.
- Boiling point/Boiling range:	55 °C (131 °F)
- Flash point:	-17 °C (1 °F)
- Flammability (solid, gaseous):	Not applicable.
- Ignition temperature:	465 °C (869 °F)
- Decomposition temperature:	Not determined.
- Auto igniting:	Product is not selfigniting.
- Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
<b>- Explosion limits:</b>	
- Lower:	2.6 Vol %
- Upper:	13.0 Vol %
- Vapor pressure at 20 °C (68 °F):	233 hPa (175 mm Hg)
<b>- Density:</b>	
- Relative density	Not determined.
- Vapour density	Not determined.
- Evaporation rate	Not applicable.
<b>- Solubility in / Miscibility with</b>	
- Water:	Not miscible or difficult to mix.
- Partition coefficient (n-octanol/water):	Not determined.
<b>- Viscosity:</b>	
- Dynamic:	Not determined.
- Kinematic:	Not determined.
<b>- Solvent content:</b>	
- Organic solvents:	75.6 %
- Solids content:	24.4 %
- Other information	No further relevant information available.

## 10 Stability and reactivity

- Reactivity
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

## 11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

- LD/LC50 values that are relevant for classification:

67-64-1 acetone

Oral	LD50	5800 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rabbit)

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**Cellulose Acetate Butyrate**

Oral	LD50 >6400 mg/kg (rabbit)
Dermal	LD50 >1000 mg/kg (rabbit)

**- Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

**- Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

**- Carcinogenic categories****- IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

**- NTP (National Toxicology Program)**

None of the ingredients is listed.

**- OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**12 Ecological information****- Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability:** No further relevant information available.

**- Behavior in environmental systems:**

- **Bioaccumulative potential:** No further relevant information available.

- **Mobility in soil:** No further relevant information available.

**- Additional ecological information:****- General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**- Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects:** No further relevant information available.

**13 Disposal considerations****- Waste treatment methods**

- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**- Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

**\*14 Transport information****- UN-Number**

- **DOT, IMDG, IATA** UN1950

**- UN proper shipping name**

- **DOT** Aerosols, flammable

- **IMDG** AEROSOLS

- **IATA** AEROSOLS, flammable

**- Transport hazard class(es)****- DOT**

- **Class** 2.1

- **Label** 2.1

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<b>- IMDG, IATA</b>	
	
<b>- Class</b>	2.1
<b>- Label</b>	2.1
<b>- Packing group</b>	
<b>- DOT, IMDG, IATA</b>	not regulated
<b>- Environmental hazards:</b>	
<b>- Marine pollutant:</b>	No
<b>- Special precautions for user</b>	
<b>- Danger code (Kemler):</b>	Warning: Gases
<b>- EMS Number:</b>	- F-D,S-U
<b>- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
Not applicable.	
<b>- Transport/Additional information:</b>	
<b>- DOT</b>	
<b>- Quantity limitations</b>	On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg
<b>- IMDG</b>	
<b>- Limited quantities (LQ)</b>	1L
<b>- Excepted quantities (EQ)</b>	Code: E0 Not permitted as Excepted Quantity
<b>- UN "Model Regulation":</b>	
UN1950, Aerosols, 2.1	

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**- Sara**

**- Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

**- Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

**- TSCA (Toxic Substances Control Act):**

acetone

Boron nitride

**- Proposition 65**

**- Chemicals known to cause cancer:**

None of the ingredients is listed.

**- Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**- Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**- Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**- Carcinogenic categories**

**- EPA (Environmental Protection Agency)**

67-64-1 acetone

I

10043-11-5 Boron nitride

I (oral)

**- TLV (Threshold Limit Value established by ACGIH)**

67-64-1 acetone

A4

**- NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** ND Industries, Inc. - Safety, Health and Environmental Affaires

- **Contact:** Safety, Health and Environmental Affaires

- **Date of preparation / last revision** 05/01/2015 / 3

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Aerosol 2: Flammable aerosols, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

- \* **Data compared to the previous version altered.**

- **Disclaimer**

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