

Sun Chemical Corporation  
135 W. Lake Street

Northlake  
USA

IL  
60164

**SunChemical**<sup>®</sup>  
a member of the DIC group 

RECOGNITION SYSTEMS INC.  
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PORT WASHINGTON, NY 11050  
USA

February 28, 2017

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# SAFETY DATA SHEET

## Section 1. Identification

Product code : NSP4449D5/C240  
GHS product identifier : SF RELAY DENSE BLACK

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

#### Identified uses

Colorant; Printing ink related material; Printing ink.

Manufacturer / Distributor : Sun Chemical Corporation  
North American Inks  
135 West Lake Street  
Northlake, IL 60164  
US: +1 866 786 8140

Emergency telephone number (with hours of operation) : (800) 424-9300 (U.S.) (24 hours)  
(703) 527-3887 (International) (24 hours)

Other information : (513) 830-8500

## Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

### GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

### Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Hazards not otherwise classified : None known.

## Section 3. Composition/information on ingredients

Substance/mixture : Mixture

### CAS number/other identifiers

Ingredient name	CAS number	%
C. I. Pigment Black 7	1333-86-4	20 - 25
Technical White Oil	8042-47-5	1 - 2.5
2-tert-butylhydroquinone	1948-33-0	< 1

## Section 3. Composition/information on ingredients

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.   |
| <b>Inhalation</b>   | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.   |
| <b>Skin contact</b> | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.  |
| <b>Ingestion</b>    | : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. |

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : No known significant effects or critical hazards. |
| <b>Inhalation</b>   | : No known significant effects or critical hazards. |
| <b>Skin contact</b> | : No known significant effects or critical hazards. |
| <b>Ingestion</b>    | : No known significant effects or critical hazards. |

### Indication of immediate medical attention and special treatment needed, if necessary

- |                                   |   |
|-----------------------------------|---|
| <b>Notes to physician</b>         | : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| <b>Specific treatments</b>        | : No specific treatment.  |
| <b>Protection of first-aiders</b> | : No action shall be taken involving any personal risk or without suitable training.  |

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- |                                       |  |
|---------------------------------------|--|
| <b>Suitable extinguishing media</b>   | : Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam. |
| <b>Unsuitable extinguishing media</b> | : Do not use water jet.  |

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

- |   |   |
|---|---|
| <b>Hazardous thermal decomposition products</b> | : Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide<br>nitrogen oxides<br>sulfur oxides<br>halogenated compounds |
|---|---|

## Section 5. Fire-fighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remarks** :

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
- Remarks:** : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. (Linseed oil)

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
C. I. Pigment Black 7	<b>ACGIH TLV (United States, 4/2014).</b> TWA: 3 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction <b>OSHA PEL (United States, 2/2013).</b> TWA: 3.5 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 3.5 mg/m <sup>3</sup> 8 hours.
Technical White Oil	<b>ACGIH TLV (United States, 3/2015).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction <b>OSHA PEL (United States, 2/2013).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

## Section 9. Physical and chemical properties

### Appearance

Physical state	: Liquid.
Color	: Black.
Odor	: Characteristic.
Odor threshold	: Not applicable.
pH	: Not tested
Melting point	: Not available.
Boiling point	: Lowest known value: 218°C (424°F)
Flash point	: Lowest known value: >93.3°C (200°F)
VOC	: 9.19
Evaporation rate	: Highest known value: <1 (Linseed oil) Weighted average: 0.9 compared with butyl acetate
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not tested
Vapor pressure	: Not available.
Vapor density	: Not tested
Density	: 1.082 g/cm <sup>3</sup> (9.027 lbs/gal)
Solubility	: Not tested
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not applicable.
Viscosity	: Not tested

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C. I. Pigment Black 7	LD50 Dermal	Rabbit	>3 g/kg	-
	LD50 Oral	Rat	>15400 mg/kg	-
2-tert-butylhydroquinone	LD50 Oral	Rat	700 mg/kg	-

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Irritation/Corrosion

## Section 11. Toxicological information

### Conclusion/Summary

- Skin** : No known significant effects or critical hazards.  
**Eyes** : No known significant effects or critical hazards.  
**Respiratory** : No known significant effects or critical hazards.

### Sensitization

#### Conclusion/Summary

- Skin** : No known significant effects or critical hazards.  
**Respiratory** : No known significant effects or critical hazards.

### Mutagenicity

- Conclusion/Summary** : No known significant effects or critical hazards.

### Carcinogenicity

- Conclusion/Summary** : No known significant effects or critical hazards.

### Classification

Product/ingredient name	OSHA	IARC	NTP
C. I. Pigment Black 7	-	2B	-

### Reproductive toxicity

- Conclusion/Summary** :

### Teratogenicity

- Conclusion/Summary** : No known significant effects or critical hazards.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Name	Result
Technical White Oil	ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No specific data.  
**Inhalation** : No specific data.  
**Skin contact** : No specific data.  
**Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure



## Section 11. Toxicological information

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Not available.

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Technical White Oil	>6	-	high

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number					
UN proper shipping name					
Transport hazard class(es)	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**TSCA 8(b) inventory** : Listed

**U.S. Federal regulations** : **TSCA 4(a) final test rules:** Polytetrafluoroethylene

**TSCA 12(b) one-time export:** Polytetrafluoroethylene

**Clean Water Act (CWA) 311:** hydrochloric acid

### SARA 313

	Product name	CAS number	%
Supplier notification	None identified.		

**Toxics in Packaging (CONEG)** : In compliance.

**Canada inventory** : At least one component is not listed in DSL but all such components are listed in NDSL.

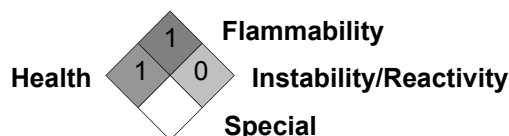
### International regulations

**International lists** :

- Australia inventory (AICS):** At least one component is not listed.
- China inventory (IECSC):** At least one component is not listed.
- Japan inventory (ENCS):** At least one component is not listed.
- Korea inventory:** At least one component is not listed.
- Malaysia Inventory (EHS Register):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** At least one component is not listed.
- Philippines inventory (PICCS):** At least one component is not listed.
- Taiwan Chemical Substances Inventory (TCSI):** Not determined.
- Turkey inventory:** Not determined.
- Europe Inventory:** Please contact your supplier to get the information.

## Section 16. Other information

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

#### History

Date of issue/Date of revision : 1/12/2017  
 Date of previous issue : 12/7/2016  
 Version : 9  
 Regulatory information : Canada: (905) 796-2222  
 US: (201) 933-4500  
 PPG: (513) 681-5950

#### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 UN = United Nations

#### References

: Not available.

Indicates information that has changed from previously issued version.

#### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

NSP4449D5

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## VOLATILE COMPONENT INFORMATION

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	US EPA Designate
A. Product Density:	
1.) 1.082 g/cm <sup>3</sup> (9.027 lbs/gal)	=(Dc)s
B. Nonvolatile Content:	
1.) 90.79 Weight percent of nonvolatiles in product	=(Wn)s
2.) 88.07 Volume percent of nonvolatiles in product	=(Vn)s
3.) 9.3 Density, lb nonvolatiles/gal nonvolatiles	=(Dn)s
C. Volatiles:	
1.) 9.21 Weight percent of total volatiles in product	=(Wv)s
2.) 6.96 Density, lb volatiles/gal volatiles	=(Dv)s
D. Water Content:	
1.) 0.02 Weight percent of water in product	=(Ww)s
2.) 0.02 Volume percent of water in product	=(Vw)s
E. Volatile Organic Compounds, (VOCs):	
1.) 9.19 Weight percent of organic volatiles in product	=(Wo)s
2.) 11.93 Volume percent of organic volatiles in product	=(Vo)s
3.) 6.95 Density, lb organic volatiles/gal organic volatiles	=(Do)s
4.) 99.78 Weight percent of VOCs in total volatiles	=(Wo)v
5.) 99.93 Volume percent of VOCs in total volatiles	=(Vo)v
F. VOC Content in Product Expressed in Other Terms:	
1.) a.) 0.83 lb VOC / gal Product	
1.) b.) 99.4 grams VOC / liter Product	
2.) a.) 0.85 lb VOC / gal Product less water & exempt solvent	
2.) b.) 101.99 grams VOC / liter Product less water & exempt solvent	
2.) c.) 9.19 Weight percent of organic volatiles (VOC) in Product less water & exempt solvents.	
3.) 0.94 lb VOC / gal total nonvolatiles	

## G. Volatiles

Ingredient	CAS number	% by weight	Density (lb/gal)
1.) Hazardous Air Pollutants VOCs (HAPs)		0	
2.) Other VOCs (Non-HAPs)			
Technical White Oil	8042-47-5	6.91	6.76 to 7.46
Technical White Oil	8042-47-5	1.5	6.76
2,2,4-tri-Methyl-1,3-Pentanediol Di-isobutyrate	6846-50-0	0.39	7.87
2-butoxyethanol	111-76-2	0.34	7.53
VOC's present at <0.10% (cumulative)		0.05	6.81
3.) water	7732-18-5	0.02	8.34
4.) Ammonia (reported as CAS# 7664-41-7; includes CAS# 1336-21-6)	7664-41-7	0	5.99
5.) Other Non-VOC, Non-HAP Volatiles		0	

NOTE: The term Volatile Organic Compounds (VOC) refers only to volatile organic materials as defined by the US EPA and does not include water, ammonia, acetone or other exempt solvents. Unless otherwise stated, the VOC values reported above are based on materials of construction.