



# DEAN STEEL BUILDINGS, INC

2929 Industrial Avenue  
Fort Myers, FL 33901  
(239) 334-1051

500 Tenth Street  
Cedartown, GA 30125  
(770) 748-7900

71 Airport Road  
Thomasville, GA 31757  
(229) 225-1112

Dear Customer:

The following items may be included as part of your shipment and may contain hazardous substances. A copy of the SDS (Safety Data Sheet) for each item has been provided which contains information on the product, precautions and first aid measures. Please contact the Customer Service department if you have any questions on a product provided by Dean Steel Buildings, Inc.

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## SAFETY DATA SHEET

**Date Issued :** 9/10/2014  
**MSDS No :** SM5227  
**Date Revised :** 10/29/2014  
**Revision No :** 2

### TACKY TAPE SM5227 Metal Building Tape Sealant

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** TACKY TAPE SM5227 Metal Building Tape Sealant

**MANUFACTURER**

ITW Polymers Sealants North America  
 111 South Nursery Road  
 Irving, TX 75060

**Product Stewardship:** (972) 438-9111

**24 HR. EMERGENCY TELEPHONE NUMBERS**

CHEMTREC (US Transportation): (800) 424-9300

**COMMENTS:** TACKY TAPE is a registered trademark of Illinois Tool Works, Inc.

#### 2. HAZARDS IDENTIFICATION

**GHS CLASSIFICATIONS**

Not classified

**GHS LABEL**

No labeling applicable

**EMERGENCY OVERVIEW**

**PHYSICAL APPEARANCE:** Dark Gray

**IMMEDIATE CONCERNS:** Solid tape packages in rolls with release paper.

**POTENTIAL HEALTH EFFECTS**

**EYES:** Contact may cause moderate eye irritation.

**SKIN:** Repeated or prolonged skin contact may result in allergic dermatitis. If product is hot, contact with the skin will result in thermal burns.

**INGESTION:** Not likely route of entry.

**INHALATION:** Not likely route of entry.

**CARCINOGENICITY:** This product is not known to contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

#### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt. %	CAS
Talc	5 - 15	14807-96-6

#### 4. FIRST AID MEASURES

**EYES:** Flush eye with tempered water for 15 minutes lifting upper and lower eye lids occasionally. If irritation persists, contact a physician.

**SKIN:** Remove contaminated clothing. Immediately wash exposed area with large amounts of water. If hot material adheres to the skin, do not attempt to peel off material. Cool the hot material with water and cover with a dry sterile dressing. Seek medical attention.

**INGESTION:** Do not induce vomiting. Get medical attention immediately. Never give anything by mouth to an unconscious person.

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**INHALATION:** Under normal conditions of use, inhalation of product is unlikely. If fumes are inhaled and become irritant, remove person from the area to fresh air. Seek immediate medical attention if exposure has occurred.

**NOTES TO PHYSICIAN:** Treat symptomatically.

#### 5. FIRE FIGHTING MEASURES

**FLAMMABLE CLASS:** None

**GENERAL HAZARD:** Non Hazardous

**EXTINGUISHING MEDIA:** Use methods appropriate for the surrounding fire. Water spray, dry chemical, carbon dioxide, AFFF or alcohol resistant foams are all appropriate.

**EXPLOSION HAZARDS:** Low hazard

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus with pressure-demand, full face piece SCBA (MSHA/NIOSH approved or equivalent) and full protective gear.

#### 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** This material is a solid tape product and release to the environment is highly unlikely. Containment is not necessary, this product will not flow. Use appropriate personal protective equipment (PPE) when handling product. Only employees properly trained should be part of any containment or spill response.

**LARGE SPILL:** Refer to release measures under small spill, large spills are to be handled in the same manner.

#### 7. HANDLING AND STORAGE

**HANDLING:** Use good chemical handling procedures and practices. No special handling precautions are required.

**STORAGE:** Store at or under 80 degrees F. Do not stack cartons on end. Rotate stock.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Talc	<b>TWA</b>	20 mpp	3.3 mg/m <sup>3</sup>	NL [1]	2 mg/m <sup>3</sup> [1]
	<b>STEL</b>	NL [1]	NL [1]	NL [1]	NL [1]
<b>Footnotes:</b> 1. NL = Not Listed					

**ENGINEERING CONTROLS:** Natural ventilation should be adequate under normal conditions.

##### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses with side shields.

**SKIN:** Wear chemical resistant, impervious gloves.

**RESPIRATORY:** No respiratory protection required under normal conditions.

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**WORK HYGIENIC PRACTICES:** Use good hygiene practices when handling this material. Wash hands thoroughly after use.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Solid  
**ODOR:** None  
**ODOR THRESHOLD:** Not Determined  
**COLOR:** Dark Gray  
**PHYSICAL STATE COMMENTS:** Tape material  
**pH:** 7.02  
**PERCENT VOLATILE:** > 99% by weight  
**FLASHPOINT AND METHOD:** Not Applicable  
**FLAMMABLE LIMITS:** No data  
**AUTOIGNITION TEMPERATURE:** Not Applicable  
**VAPOR PRESSURE:** Not Determined  
**VAPOR DENSITY:** Not Determined  
**BOILING POINT:** Not Determined  
**FREEZING POINT:** Not Determined  
**MELTING POINT:** Not Determined  
**POUR POINT:** Not Determined  
**SOLUBILITY IN WATER:** Nonsoluble  
**EVAPORATION RATE:** Not Determined  
**DENSITY:** 10.75 lbs/gal  
**PARTICLE SIZE:** Not Determined  
**SPECIFIC GRAVITY:** 1.29  
**VISCOSITY:** Not Determined  
**MOLECULAR WEIGHT:** Not Determined  
**(VOC):** < 1.000 %  
**COEFF. OIL/WATER:** Not Determined  
**OXIDIZING PROPERTIES:** Not Determined

#### 10. STABILITY AND REACTIVITY

**STABLE:** Yes  
**HAZARDOUS POLYMERIZATION:** No  
**STABILITY:** Stable.  
**POLYMERIZATION:** Product will not undergo polymerization.  
**CONDITIONS TO AVOID:** No conditions known  
**POSSIBILITY OF HAZARDOUS REACTIONS:** None  
**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon dioxide, carbon monoxide, hydrogen chloride and sulfides.

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**INCOMPATIBLE MATERIALS:** Liquid chlorine, potassium permanganate, fuming nitric acid, fluorine and other strong oxidizing and base agents.

#### 11. TOXICOLOGICAL INFORMATION

##### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
Talc	No data	No data	No data

**NOTES:** No known acute effects.

**CHRONIC:** No known chronic effects.

#### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** No environmental information was found for this product.

**ECOTOXICOLOGICAL INFORMATION:** No ecotoxicity data was found for this product.

**BIOACCUMULATION/ACCUMULATION:** Contains components with the potential to bio-accumulate.

#### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Consult with your state and local hazardous waste requirements or guidelines to ensure compliance. Arrange disposal in accordance with EPA, state and local requirements.

#### 14. TRANSPORT INFORMATION

##### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Not Regulated for Transport

**PRIMARY HAZARD CLASS/DIVISION:** Not Regulated

**UN/NA NUMBER:** NA

**PACKING GROUP:** NA

#### 15. REGULATORY INFORMATION

##### UNITED STATES

##### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**FIRE:** No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** No **CHRONIC:** No

##### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Talc	14807-96-6

#### 16. OTHER INFORMATION

**INFORMATION CONTACT:** (972) 438-9111

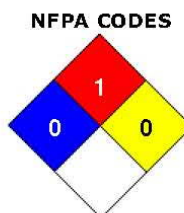
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**REVISION SUMMARY:** This MSDS replaces the 9/10/2014 MSDS. Revised: **Section 2:** .

HMIS RATING	
HEALTH	* 0
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	B



**GENERAL STATEMENTS:** Keep out of reach of children  
 For professional or industrial use only

**MANUFACTURER DISCLAIMER:** This document may be used to comply with OSHA's Hazardous Communication Standard, 29 CFR 1910.1200.

To the best of our knowledge, the information contained in this SDS is accurate. It is intended to assist the user in his/her evaluation of the product's hazards and safety precautions to be taken in its use. The data in this SDS relate only to the specific material designated herein. We do not assume liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of ITW Polymers Sealants North America. The data on this sheet relates only to the specific material designated herein. ITW Polymers Sealants North America assumes no legal responsibility for use or reliance upon these data.

## SAFETY DATA SHEET

Date Prepared : 09/13/2017  
MSDS No : SM5522  
Date Revised : 09/13/2017  
Revision No : 3

### ACRYL-R SM5522 Acrylic Sealant

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** ACRYL-R SM5522 Acrylic Sealant

**MANUFACTURER**

ITW Polymers Sealants North America  
111 South Nursery Road  
Irving, TX 75060

**Product Stewardship:** (972) 438-9111

**24 HR. EMERGENCY TELEPHONE NUMBERS**

CHEMTREC (US Transportation): (800) 424-9300

**COMMENTS:** ACRYL-R is a registered trademark of Illinois Tool Works, Inc.

#### 2. HAZARDS IDENTIFICATION

**GHS CLASSIFICATIONS**

**Health:**

Skin Irritation, Category 2  
Reproductive Toxicity, Category 2  
Target Organ Toxicity (Single exposure), Category 3  
Target Organ Toxicity (Repeated exposure), Category 2  
Aspiration Hazard, Category 1

**Environmental:**

Acute Hazards to the Aquatic Environment, Category 2

**Physical:**

Flammable Liquids, Category 2

**GHS LABEL**



Flame



Health hazard



Exclamation mark

**SIGNAL WORD:** DANGER

**HAZARD STATEMENTS**

H225: Highly flammable liquid and vapour.  
H304: May be fatal if swallowed and enters airways.  
H315: Causes skin irritation.  
H336: May cause drowsiness or dizziness.  
H361: Suspected of damaging fertility or the unborn child.  
H373: May cause damage to organs through prolonged or repeated exposure.  
H401: Toxic to aquatic life.

**PRECAUTIONARY STATEMENT(S)**

**Prevention:**

[201]: Obtain special instructions before use.  
P202: Do not handle until all safety precautions have been read and understood.



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### ACRYL-R SM5522 Acrylic Sealant

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233: Keep container tightly closed.  
 P240: Ground and bond container and receiving equipment.  
 P241: Use explosion-proof [electrical/ventilating/lighting] equipment.  
 P242: Use non-sparking tools.  
 P243: Take action to prevent static discharges.  
 P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
 P264: Wash thoroughly after handling.  
 P271: Use only outdoors or in a well-ventilated area.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

#### Response:

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P308+P313: IF exposed or concerned: Get medical advice/ attention.  
 P321: Specific treatment is required.  
 P331: Do NOT induce vomiting.  
 P332+P313: If skin irritation occurs: Get medical advice/attention.  
 P362: Take off contaminated clothing.  
 P370+P378: In case of fire: Use appropriate media to extinguish.

#### Storage:

P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P403+P235: Store in a well-ventilated place. Keep cool.  
 P405: Store locked up.

#### Disposal:

P501: Dispose of contents/container according to local, regional, national, and international regulations.

#### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** DANGER! Extremely flammable liquid and vapor. Vapor may cause flash fire and explosion. Harmful or fatal if swallowed. Harmful if absorbed through the skin. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. High vapor concentrations may cause drowsiness. Can cause eye, skin and respiratory tract irritation.

#### POTENTIAL HEALTH EFFECTS

**EYES:** Can cause moderate to severe eye irritation with temporary damage possible.

**SKIN:** Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

**INGESTION:** Harmful or fatal if swallowed. Can cause gastrointestinal irritation with symptoms of nausea, vomiting and diarrhea.

**INHALATION:** Respiratory tract irritant. High concentrations may cause dizziness, headache, and anesthetic effects.

**ROUTES OF ENTRY:** Eye and Skin Contact, Inhalation and Ingestion

**IRRITANCY:** Eyes, nose, throat, respiratory tract, and skin irritation.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

## SAFETY DATA SHEET

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### ACRYL-R SM5522 Acrylic Sealant

Chemical Name	Wt. %	CAS
Toluene	30 - 40	108-88-3

#### 4. FIRST AID MEASURES

**EYES:** Immediately flush eyes with plenty of tempered water (at least 15-20 minutes) lifting upper and lower eye lids occasionally. Get immediate medical attention.

**SKIN:** Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash or dispose of clothing before reuse.

**INGESTION:** Do not induce vomiting, keep person warm, quiet and get medical attention immediately. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Aspiration of this material into the lungs due to vomiting can cause chemical pneumonitis which can be fatal.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

#### SIGNS AND SYMPTOMS OF OVEREXPOSURE

**EYES:** Liquid and vapor can severely irritate the eyes depending on type of exposure (splash, vapor) and exposure time.

**SKIN:** May cause skin irritation; itching, redness, rashes, hives, burning and swelling.

**INGESTION:** May cause vomiting.

**INHALATION:** Respiratory tract irritation. High concentration may cause dizziness, headache, and anesthetic effects.

**ACUTE EFFECTS:** High vapor concentrations may cause central nervous system (CNS) depression with symptoms including light headedness, giddiness, nausea, drowsiness, headache, nose, throat and respiratory tract irritation, reduced appetite, confusion and unconsciousness.

**CHRONIC EFFECTS:** Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumonitis (lung cavity) formation and chronic lung dysfunction.

Reports have associated repeated or prolonged occupational exposure to solvents with irreversible brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

**NOTES TO PHYSICIAN:** Treat symptomatically.

#### 5. FIRE FIGHTING MEASURES

**FLAMMABLE CLASS:** Class IB

**GENERAL HAZARD:** Flammable liquid and vapor.

**EXTINGUISHING MEDIA:** Use methods appropriate for the surrounding fire. Water spray, dry chemical, carbon dioxide, AFFF or alcohol resistant foams are all appropriate.

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon dioxide, carbon monoxide, smoke, fumes and/or unburned hydrocarbons

**EXPLOSION HAZARDS:** Avoid fire, sparks, static electricity and hot surfaces. Liquid readily evaporates at room/ambient temperature. Vapors are invisible, flammable, heavier than air, and may accumulate in low areas and spread long distances. Distant ignition and flashback are possible.

**FIRE FIGHTING PROCEDURES:** As in any fire, wear self-contained breathing apparatus with pressure-demand, full face piece SCBA (MSHA/NIOSH approved or equivalent) and full protective gear.

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### ACRYL-R SM5522 Acrylic Sealant

**SENSITIVE TO STATIC DISCHARGE:** Likely to catch fire from near-by spark. Static charge may accumulate by flow or agitation. Grounding and bonding of containers is required.

**SENSITIVITY TO IMPACT:** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon dioxide, carbon monoxide, or hydrocarbon fumes if heated to decomposition.

#### 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed, thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal. Only those persons who are adequately trained, authorized, and wearing the required personal protective equipment (PPE) should participate in spill response and clean-up.

**LARGE SPILL:** Keep spectators away. Only those persons who are adequately trained, authorized and wearing the required personal protective equipment (PPE) should participate in spill response and clean-up. Ventilate the area by natural means or by explosion proof mechanical means (i.e. fans). Know and prepare for spill response before using or handling this product. Eliminate all ignition sources (flames, hot surfaces, portable heaters and sources of electrical, static, or frictional sparks). Dike and contain spill with inert material (e.g. sand, earth). Transfer liquids to covered and labeled metal containers for recovery or disposal, or remove with inert absorbent. Use only non-sparking tools and appropriate PPE. Place absorbent diking materials in covered metal containers for disposal. Prevent contamination of sewers, streams, and groundwater with spilled material or used absorbent.

#### ENVIRONMENTAL PRECAUTIONS

**WATER SPILL:** Avoid run-off into storm drains, ditches and waterways.

#### 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** For professional or industrial use only. Follow label instructions. Keep out of the reach of children. Not for consumption. No smoking. Do not breathe vapors. Avoid contact with body. Turn off all pilot lights, flames, stoves, heaters, electric motors, welding equipment and other sources of ignition. Empty containers must not be washed and re-used for any purpose. Contact lens wearers must wear protective eye wear around chemical vapors and liquid. Wash hands thoroughly after handling. Flammable vapors may cause flash fire or ignite explosively. To prevent build-up of vapors, use adequate natural and/or mechanical ventilation (e.g. open all windows and doors to achieve cross ventilation). Containers may be hazardous when empty. Never use welding or cutting torch on or near container. Do not cut, drill, grind, or expose containers to heat, sparks, static electricity or other source of ignition. Explosion may occur causing injury or death.

**HANDLING:** Use adequate ventilation and appropriate respiratory protection to avoid breathing vapors when cover is removed. Ground and bond all equipment when handling flammable solvent-borne material.

**STORAGE:** Keep container closed when not in use. Store in a dry well ventilated area, out of the sun and away from ignition sources. Do not remove or deface label. Prevent water or moist air from entering container. Do not store in the same area with alcohols, amines, strong bases and surface active materials.

**SHELF LIFE:** 18 months from manufacture date @ 80 F ( 26.7 C)

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

## SAFETY DATA SHEET

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### ACRYL-R SM5522 Acrylic Sealant

#### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)			
EXPOSURE LIMITS			
Chemical Name	Type	ppm	mg/m <sup>3</sup>
Toluene	OSHA PEL	TWA	200 ppm
		STEL	300 ppm <sup>[1]</sup>
	ACGIH TLV	TWA	20 ppm
		STEL	NL <sup>[2]</sup>
<b>Footnotes:</b> 1. C = Ceiling 2. NL = Not Listed			

**ENGINEERING CONTROLS:** Provide sufficient explosion proof mechanical (general and/or local exhaust) ventilation to maintain exposure below the occupational exposure limit and exposure concentration.

#### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Wear safety glasses with side shields (or goggles) or a full face respirator.

**SKIN:** Wear chemical protective clothing & boots to prevent repeated or prolonged skin contact. Wear impervious gloves, if needed, to prevent repeated or prolonged skin contact.

**RESPIRATORY:** NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**PROTECTIVE CLOTHING:** Wear chemical resistant gloves, such as nitrile rubber.

**WORK HYGIENIC PRACTICES:** Use good hygiene practices when handling this material. Wash hands thoroughly after use.

**OTHER USE PRECAUTIONS:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** Liquid

**ODOR:** Slight Aromatic Odor

**ODOR THRESHOLD:** Not Determined

**COLOR:** Clear and Pigmented

**pH:** Not Determined

**PERCENT VOLATILE:** 35.0

**Notes:** by weight

**FLASHPOINT AND METHOD:** 14.4°C (58°F) ASTM D56-82

**FLAMMABLE LIMITS:** 1.2 to 7.1

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**Notes:** (toluene)

**AUTOIGNITION TEMPERATURE:** (997°F)

**Notes:** (toluene)

**VAPOR PRESSURE:** Not Determined

**VAPOR DENSITY:** Not Determined

**BOILING POINT:** 110.6°C (231°F)

**Notes:** (toluene)

**FREEZING POINT:** Not Determined

**MELTING POINT:** Not Determined

**POUR POINT:** Not Determined

**SOLUBILITY IN WATER:** Nonsoluble

**PARTITION COEFFICIENT: N-OCTANOL/WATER:** Not Determined

**DENSITY:** 8.79 lbs/gal

**SPECIFIC GRAVITY:** 1.054

**VISCOSITY:** Not Determined

**(VOC):** 367.9 gr/L EPA Method 24 VOC

**OXIDIZING PROPERTIES:** Not Determined

#### 10. STABILITY AND REACTIVITY

**REACTIVITY:** Yes

**HAZARDOUS POLYMERIZATION:** Product will not undergo polymerization.

**STABILITY:** Stable.

**CONDITIONS TO AVOID:** Avoid heat, flames, sparks, and other sources of ignition. Keep away from strong oxidizing conditions and agents.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None Expected.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide and hydrocarbon fumes if heated to decomposition.

**INCOMPATIBLE MATERIALS:** Strong oxidizing agents and amines.

#### 11. TOXICOLOGICAL INFORMATION

##### ACUTE TOXICITY

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
Toluene	2600 to 7500 mg/kg	12124 mg/kg	8000 ppm (4-hr dose)

**SERIOUS EYE DAMAGE/IRRITATION:** Eyes, nose, throat, respiratory tract irritation.

##### CARCINOGENICITY

Chemical Name	IARC Status
Toluene	3

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### ACRYL-R SM5522 Acrylic Sealant

#### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** This product contains components that will normally float on water. These components may be harmful to aquatic organisms and may cause long term adverse effects in the aquatic environment.

**ECOTOXICOLOGICAL INFORMATION:** Contains components that are potentially toxic to freshwater and saltwater ecosystems.

**BIOACCUMULATION/ACCUMULATION:** Contains components with the potential to bio-accumulate.

#### 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Dispose of in accordance with all local, state and federal regulations.

#### 14. TRANSPORT INFORMATION

##### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Flammable Liquid, N.O.S.

**TECHNICAL NAME:** contains (Toluene)

**PRIMARY HAZARD CLASS/DIVISION:** 3

**UN/NA NUMBER:** 1993

**PACKING GROUP:** II

**NAERG:** 128

**MARINE POLLUTANT #1:** None

#### 15. REGULATORY INFORMATION

##### UNITED STATES

##### DOT LABEL SYMBOL AND HAZARD CLASSIFICATION



Flammable  
Liquid

##### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**FIRE:** Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

##### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt. %	CAS
Toluene	30 - 40	108-88-3

##### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Chemical Name	Wt. %	CERCLA RQ
Toluene	30 - 40	1,000 lbs.

##### TSCA (TOXIC SUBSTANCE CONTROL ACT)

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Chemical Name	CAS
Toluene	108-88-3

#### CLEAN AIR ACT

Chemical Name	Wt.%	CAS
Toluene	30 - 40	108-88-3

#### STATES WITH SPECIAL REQUIREMENTS

Chemical Name	Requirements
Toluene	New Jersey Right to Know List Pennsylvania Right to Know List Massachusetts Toxic Use Reduction Act (TURA) Reportable Chemical

**CALIFORNIA PROPOSITION 65:** This product contains toluene, a chemical known to the state of California to cause birth defects or other reproductive harm.

Chemical Name	Wt.%	Listed
Toluene	30 - 40	Developmental Toxicity

#### CANADA

##### WHMIS HAZARD SYMBOL AND CLASSIFICATION



Flammable  
Liquid



Toxic

#### 16. OTHER INFORMATION

Date Revised : 09/13/2017

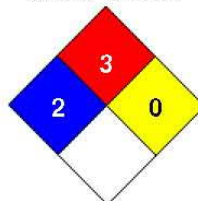
INFORMATION CONTACT: (972) 438-9111

REVISION SUMMARY: This MSDS replaces the 07/17/2015 MSDS. Revised: **Section 1:** Date Issued.

##### HMIS RATING

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL HAZARD		0
PERSONAL PROTECTION		B

##### NFPA CODES



**GENERAL STATEMENTS:** Keep out of reach of children  
For professional or industrial use only

**MANUFACTURER DISCLAIMER:** This document may be used to comply with OSHA's Hazardous Communication Standard, 29 CFR 1910.1200.

## SAFETY DATA SHEET

**Date Prepared :** 09/13/2017

**MSDS No :** SM5522

**Date Revised :** 09/13/2017

**Revision No :** 3

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### ACRYL-R SM5522 Acrylic Sealant

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To the best of our knowledge, the information contained in this SDS is accurate. It is intended to assist the user in his/her evaluation of the product's hazards and safety precautions to be taken in its use. The data in this SDS relate only to the specific material designated herein. We do not assume liability for the use of, or reliance on this information, nor do we guarantee its accuracy or completeness.

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of ITW Polymers Sealants North America. The data on this sheet relates only to the specific material designated herein. ITW Polymers Sealants North America assumes no legal responsibility for use or reliance upon these data.





## SAFETY DATA SHEET

Revision date: 19-May-2016

Version: 10

Supersedes Date: 03-May-2016

### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product identifier:**

Product Code: 007.0336709

Product Name: VAL DURMX EXT LTX SGL BASE 1

**Other means of identification:**

No information available

**Recommended use of the chemical and restrictions on use:**

Paint, Coatings

**Details of the supplier of the safety data sheet:**

See section 16 for more information

The Valspar Corporation  
PO Box 1461  
Minneapolis, MN 55440

E-mail address: [msds@valspar.com](mailto:msds@valspar.com)

**Emergency telephone number:**

United States of America: 1-888-345-5732

American Samoa, Guam, Northern Mariana Islands, Puerto Rico, U.S. Virgin Islands: 1-800-255-3024

### Section 2: HAZARDS IDENTIFICATION

**Classification:**

Skin sensitization	Category 1
Carcinogenicity	Category 2

**Label elements:**

Product Code: 007.0336709

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AGHS - USA OSHA SDS

**U.S. State Right-to-Know Regulations**

Chemical Name
Water 7732-18-5
Proprietary Non-Hazardous Ingredient - Proprietary CAS
Titanium dioxide 13463-67-7
Benzophenone 119-61-9

**Section 16: OTHER INFORMATION**

**HMIS**

**Health hazards** 2\*  
\* = Chronic Health Hazard

**Flammability** 1

**Physical hazards** 0

**Personal Protection** X

**Supplier Address**

Valspar Consumer Headquarters 8725 W. Higgins Rd. Suite 1000 Chicago, IL 60631 773-628-5500	The Valspar Corporation 4999 36th St. Grand Rapids, MI 49512 800-253-3957	Valspar Plasti-Kote 1636 Shawsons Dr. Mississauga, Ontario L4W 1N7 905-671-8333
--	--	--

**Prepared By** Product Stewardship

**Revision date** 19-May-2016

**Revision Note** No information available

**Disclaimer**

The information on this Safety Data Sheet (SDS) is based on the present state of our knowledge, current national legislation and guidelines. As the specific conditions of use of the product are outside the supplier's knowledge and control the user is responsible for ensuring that the requirements of relevant legislation are complied with. This SDS should not be construed as any guarantee of the technical performance or suitability for particular applications. UNLESS SUPPLIER AGREES OTHERWISE IN WRITING, SUPPLIER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR FREEDOM FROM PATENT INFRINGEMENT. SUPPLIER WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

End of Safety Data Sheet

Product Code 007.0336709

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AGHS - USA OSHA SDS

**Waste treatment methods****Disposal of wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging**

Improper disposal or reuse of this container may be dangerous and illegal. Empty containers must be scrapped or reconditioned.

### Section 14: TRANSPORT INFORMATION

	<b>DOT</b>	<b>IMDG</b>	<b>IATA</b>
14.1 UN/ID no	UN3082	UN3082	UN3082
14.2 Proper shipping name	Environmentally hazardous substances, liquid, n.o.s 3-Iodo-2-propynyl butylcarbamate	Environmentally hazardous substances, liquid, n.o.s 3-Iodo-2-propynyl butylcarbamate	Environmentally hazardous substances, liquid, n.o.s 3-Iodo-2-propynyl butylcarbamate
14.3 Hazard Class	9	9	9
14.4 Packing Group	III	III	III
14.5 Environmental hazard	Yes		
Marine pollutant	This material meets the definition of a marine pollutant		
Marine pollutant	3-Iodo-2-propynyl butylcarbamate, Benzophenone		
14.6 Special Provisions	8, 146, 173, 335, IB3, T4, TP1, TP29 Emergency Response Guide Number 171	274, 335 Ems-No F-A, S-F	A97, A158, A197
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code			No information available

The supplier may apply one of the following exceptions: Combustible Liquid (49 CFR 173.150(f)); Consumer Commodity (49 CFR 173.150(c), ICAO/IATA SP A112); Limited Quantity (49 CFR 173.150(b), ICAO Part 3 Chapter 4, IATA 2.7, IMDG Chapter 3.4); Viscous Liquid (49 CFR 173.121(b), IMDG 2.3.2.2, IATA 3.3.3.1.1, ICAO 3.2.2, ADR 2.2.3.1.5); Does Not Sustain Combustion (49 CFR 173.120(a), IATA 3.3.1.3, ICAO 3.1.3, IMDG 2.3.1.3, ADR 2.2.3.1.1 Note 1); or others as allowed under hazardous materials/dangerous goods regulations.

### Section 15: REGULATORY INFORMATION

**International Inventories**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

All components are listed or exempt from listing.

**DSL** - Canadian Domestic Substances List

All components are listed or exempt from listing.

**US Federal Regulations****SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**US State Regulations****Rule 66 status of product**

Not photochemically reactive.

**California Proposition 65**

WARNING! This product contains a chemical known in the State of California to cause cancer.

**U.S. EPA Label information**

EPA Pesticide registration number Not applicable

**Product Code 007.0336709**

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Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Titanium dioxide 13463-67-7	> 10000 mg/kg ( Rat )	-	-
3-Iodo-2-propynyl butylcarbamate 55406-53-6	= 1100 mg/kg ( Rat )	-	-
Benzophenone 119-61-9	> 10 g/kg ( Rat )	= 3535 mg/kg ( Rabbit )	-

#### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .  
ATEmix (Inhalation-dust/mist) 149.1 mg/l

**UNKNOWN ACUTE TOXICITY** 0% of the mixture consists of ingredient(s) of unknown toxicity.

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

#### Carcinogenicity

According to IARC, Volume 93, no significant exposure to primary particles of titanium dioxide is thought to occur from use in paints since the pigment is bound to other materials.

Chemical Name	ACGIH	IARC	NTP	OSHA
Titanium dioxide 13463-67-7		Group 2B		X
Benzophenone 119-61-9		Group 2B		X

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans.

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present.

<b>Skin corrosion/irritation</b>	Not applicable
<b>Serious eye damage/eye irritation</b>	Not applicable
<b>Skin sensitization</b>	May cause an allergic skin reaction
<b>Respiratory sensitization</b>	Not applicable
<b>Germ cell mutagenicity</b>	Not applicable
<b>Carcinogenicity</b>	Suspected of causing cancer
<b>Reproductive Toxicity</b>	Not applicable
<b>Specific target organ toxicity (single exposure)</b>	Not applicable
<b>Specific target organ toxicity (repeated exposure)</b>	Not applicable
<b>Aspiration hazard</b>	Not applicable

## Section 12: ECOLOGICAL INFORMATION

#### Ecotoxicity

Environmental precautions Prevent product from entering drains.

Marine pollutant This material meets the definition of a marine pollutant

#### Persistence and degradability

No information available

#### Bioaccumulation

No information available

#### Mobility

No information available

#### Other adverse effects

No information available

## Section 13: DISPOSAL CONSIDERATIONS

Product Code 007.0336709

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## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	liquid
Appearance	No information available
Odor	Slight
Color	white
Odor Threshold	No information available
pH value	No information available
Melting point/freezing point	No information available
Boiling point / boiling range	No information available °C / °F
flash point	96 °C / 205 °F
evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor Pressure	No information available
vapor density	No information available
Density (lbs per US gallon)	9.79
specific gravity	No information available
Solubility(ies)	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

### Other information

## Section 10: STABILITY AND REACTIVITY

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	None under normal processing.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Strong oxidizing agents.
Hazardous Decomposition Products	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ).

## Section 11: TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

Eye contact	Not applicable
Skin Contact	May cause an allergic skin reaction
Ingestion	Not applicable
Inhalation	Not applicable

### Numerical measures of toxicity - Component Information

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## Section 7: HANDLING AND STORAGE

### Precautions for safe handling

#### Advice on safe handling

Prevent the creation of flammable or explosive concentrations of vapor in air and avoid vapor concentration higher than the occupational exposure limits. Use personal protection recommended in Section 8. Never use pressure to empty container. Comply with the health and safety at work laws. Prevent product from entering drains. Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Use only with adequate ventilation. Do not breathe dust/fume/gas/mist/vapors/spray.

#### General Hygiene Considerations

When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing.

#### Conditions for safe storage, including any incompatibilities

##### Storage Conditions

Keep/store only in original container. Store in accordance with local regulations. Keep unauthorized personnel away. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place.

##### Incompatible materials

Strong oxidizing agents.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Limits

If S\* appears in the OEL table, it indicates this chemical contains a skin notation.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Titanium dioxide 13463-67-7	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> total dust	IDLH: 5000 mg/m <sup>3</sup>

#### Appropriate engineering controls

##### Engineering Controls

Ensure adequate ventilation, especially in confined areas. Provide local exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

#### Individual protection measures, such as personal protective equipment

##### Eye/face protection

Tight sealing safety goggles.

##### Skin and body protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear suitable protective clothing.

##### Hand Protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed. Gloves should be replaced regularly and if there is any sign of damage to the glove material. Always ensure that gloves are free from defects and that they are stored and used correctly. The performance or effectiveness of the glove may be reduced by physical / chemical damage and poor maintenance. Wear protective gloves.

##### Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

##### Thermal Protection

No information available

Product Code 007.0336709

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**Eye contact**

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.

**Skin Contact**

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Inhalation**

IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

**Ingestion**

Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**Section 5: FIRE FIGHTING MEASURES****Suitable extinguishing media**

Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

Not to be used for safety reasons: Strong water jet

**Specific hazards arising from the chemical**

Burning produces heavy smoke. Fire may produce irritating and/or toxic gases. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by skin contact.

**Special protective equipment for fire-fighters**

Wear self-contained breathing apparatus and protective suit. Cool containers with flooding quantities of water until well after fire is out. Do not allow run-off from fire-fighting to enter drains or water courses.

**Section 6: ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal precautions**

Avoid breathing vapors or mists. Remove all sources of ignition. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

**Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Dispose of waste product or used containers according to local regulations. Clean with detergents. Avoid solvent cleaners. Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Take up mechanically, placing in appropriate containers for disposal.

Product Code 007.0336709

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Signal word

**WARNING**

**HAZARD STATEMENTS**

May cause an allergic skin reaction  
Suspected of causing cancer

**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. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace.

**RESPONSE**

IF exposed or concerned: Get medical advice/attention.

**Eyes**

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.

**Skin**

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Inhalation**

IF INHALED: Call a POISON CENTER or doctor if you feel unwell.

**Ingestion**

Do NOT induce vomiting. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

**STORAGE**

Store locked up.

**DISPOSAL**

Dispose of contents/containers in accordance with local regulations.

**HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)**

Not applicable.

**OTHER HAZARDS**

Not applicable.

**UNKNOWN ACUTE TOXICITY**

0% of the mixture consists of ingredient(s) of unknown toxicity.

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	weight-%
Titanium dioxide	13463-67-7	10 - 25
3-Iodo-2-propynyl butylcarbamate	55406-53-6	0.3 - 1
Benzophenone	119-61-9	0.1 - 0.3

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

**Section 4: FIRST AID MEASURES**

**First Aid Measures**

**General advice**

IF exposed or concerned: Get medical advice/attention.

Product Code 007.0336709

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AGHS - USA OSHA SDS



# Red-Oxide Primer Touch-up Paint

## Safety Data Sheet

**HEMPEL'S**  
**15253 AIR DRY H/S RED OXIDE PRIMER 3.5**



9/29/17  
**HEMPEL**

Conforms to ANSI Z400.1-2010 Standard - HCS 2012

Protective Clothing	General Hazard	DOT

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Product name : HEMPEL'S  
 AIR DRY H/S RED OXIDE PRIMER 3.5  
 Product identity : 115JB5L001, 15253  
 Product type : primer

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

Field of application : buildings and metal industry.  
 Identified uses : Industrial/Professional use  
 TSCA : Unless otherwise stated All components are listed or exempted.

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

Company details : Hempel (USA), Inc., Jones-Blair Division  
 2728 Empire Central  
 Dallas, TX 75235  
 1-214-353-1600  
 E-mail: hempel@hempel.com

#### 1.4 Emergency telephone number (with hours of operation)

For Transportation Emergencies : CHEMTREC: 1-800-424-9300 (Toll-free in the U.S., Canada and the U.S. Virgin Islands) 703-527-3887  
 (24 hours)  
 For calls originating elsewhere (Collect calls are accepted). Contract number: CCN10384  
 To preserve the effectiveness of arrangements for providing accurate and timely emergency response information, the basic identifying information (shipper name or contract number) must be included on shipping papers.  
 If the purchaser of this product is going to be shipping this product to other locations, the purchaser must arrange for its own Emergency Information Provider to respond to transport incidents. Hempel's 24 hour response contract does not cover non-Hempel shipments.

For all other information : Hempel (USA), Inc. : 1-214-353-1600  
 (8 AM - 5 PM CST)  
 See Section 4 of the safety data sheet (first aid measures).

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
 GHS Classification : FLAMMABLE LIQUIDS - Category 2  
 SKIN IRRITATION - Category 2  
 EYE IRRITATION - Category 2A  
 CARCINOGENICITY - Category 2  
 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1

#### 2.2 Label elements

Hazard pictograms :



Signal word : Danger

# Safety Data Sheet

HEMPEL'S

15253 AIR DRY H/S RED OXIDE PRIMER 3.5



## SECTION 2: Hazards identification

Hazard statements :	H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H351 - Suspected of causing cancer. H336 - May cause drowsiness or dizziness. H372 - Causes damage to organs through prolonged or repeated exposure. (lungs)
Precautionary statements :	
Prevention :	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating, lighting and all material-handling equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response :	Get medical attention if you feel unwell. IF exposed or concerned: Get medical attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. 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 attention.
Storage :	Store locked up. Store in a well-ventilated place. Keep cool.
Disposal :	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements :	None known.

### 2.3 Other hazards

Hazards not otherwise classified : None known.

## SECTION 3: Composition/information on ingredients

Product definition : Mixture  
Physical state : Liquid.

Product/ingredient name	Identifiers	%	GHS Classification
Talc	14807-96-6	≥10 - ≤25	Not classified.
limestone	*1317-65-3	≥10 - ≤25	Not classified.
solvent naphtha (petroleum), light aliph.	64742-89-8	≥10 - ≤25	FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1
Iron oxide (Fe2O3)	1309-37-1	≥5 - ≤10	Not classified.
solvent naphtha (petroleum), light arom.	64742-95-6	≥5 - ≤10	FLAMMABLE LIQUIDS - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1
1,2,4-trimethylbenzene	95-63-6	≥3 - ≤5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (Inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
n-butanol	71-36-3	≥1 - ≤2,5	FLAMMABLE LIQUIDS - Category 3 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Version: 0.04

# Safety Data Sheet

HEMPEL'S  
15253 AIR DRY H/S RED OXIDE PRIMER 3.5



## SECTION 15: Regulatory information

Product/Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Talc	Yes.	No.	No.	No.
white spirit	Yes.	No.	No.	No.
1-ethyl-2-methylbenzene	No.	Yes.	No.	No.
respirable quartz	Yes.	No.	No.	No.
carbonblack	Yes.	No.	No.	No.
Cumen	Yes.	No.	No.	No.
ethylbenzene	Yes.	No.	No.	No.
			41 µg/day (Ingestion)	No.
			54 µg/day (Inhalation)	No.

## SECTION 16: Other information

Remarks :

Note: In USA, consult Code of Federal Regulations, Title 29, Labor, Parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable Federal, State or local regulations that apply to safe practices in coating operations.

Warning! If you scrape, sand, or remove old paint, you may release lead dust. LEAD is TOXIC.

Validation :

Validated by US - HSE Products Coordinator on 27 May 2016

### GHS Classification

Procedure used to derive the classification.

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (lungs) - Category 1	On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method

Hazardous Material Information System (U.S.A.)

Health	3
Fire hazard	3
Physical hazards	0
Personal protection	X

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



Personal Protective Equipment (PPE) shown in this section is a suggestion. Since conditions vary from one work location to another consult the facility safety & health program. Customer or end user is responsible to evaluate worker exposure conditions at the site of application and determine the appropriate PPE suitable for workers at that particular facility or location.

### Abbreviations and acronyms:

ANSI = American National Standards Institute  
 HCS = Hazardous Communication System  
 TSCA = Toxic Substances Control Act  
 CFR = Code of federal Regulations  
 GHS = Globally Harmonized System of Classification and Labeling of Chemicals  
 OSHA = United States Occupational Health and Safety Administration  
 NIOSH = National Institute for Occupational Safety and Health  
 ACGIH = American Conference of Industrial Hygienists  
 IARC = International Agency for Research on Cancer  
 NTP = National Toxicology Program  
 ATE = Acute Toxicity Estimate

OECD = Organisation for Economic Co-operation and Development  
 BCF = Bioconcentration Factor  
 DOT = United States Department of Transportation  
 ERG = Emergency Response Guide  
 TDG = Transport of Dangerous Goods, Canada  
 SCT = Transportation & Communications Ministry, Mexico  
 IMDG = International Maritime Dangerous Goods  
 IATA = International Air Transport Association  
 SARA = Superfund Amendments Reauthorization Act  
 EPCRA = Emergency Planning and Community Right to Know Act

### Notice to reader

Indicates information that has changed from previously issued version.

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.

# Safety Data Sheet

HEMPEL'S

15253 AIR DRY H/S RED OXIDE PRIMER 3.5



## SECTION 4: First aid measures

Skin contact : Adverse symptoms may include the following:  
irritation  
redness

Ingestion : No specific data.

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

Notes to physician : Not applicable.

Specific treatments : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Extinguishing media : Recommended: alcohol resistant foam, CO<sub>2</sub>, powders, water spray.  
Not to be used: waterjet.

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

Hazards from the substance or mixture : Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials: carbon oxides metal oxide/oxides

### 5.3 Advice for firefighters

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. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## SECTION 6: Accidental release measures

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

Exclude sources of ignition and be aware of explosion hazard. Ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

### 6.2 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). Water polluting material. May be harmful to the environment if released in large quantities.

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

Stop leak if without risk. Move containers from spill area. Approach release from upwind. 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). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.

### 6.4 Reference to other sections

See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. No sparking tools should be used. Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

See separate Product Data Sheet for recommendations or industrial sector specific solutions. This product may be applied using several application techniques and methods of handling may be different for each. Application techniques include [but are not limited to] brushing, rolling, and spray application [conventional, HPLV, airless, pleural component or aerosol can]. Avoid the breathing of vapors and, if spraying, do not breath spray mist or aerosols.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Product/ingredient name	Exposure limit values
Talc	<p><b>ACGIH TLV (United States, 3/2015).</b>                      TWA: 0.1 f/cc 8 hours. Form: Respirable fibers: length greater than 5 µm; aspect ratio equal to or greater than 3:1 as determined by the membrane filter method at 400-450X magnification (4-mm objective) phase contrast illumination.  <b>NIOSH REL (United States, 10/2013).</b>                      TWA: 2 mg/m<sup>3</sup> 10 hours. Form: Respirable fraction  <b>OSHA PEL Z3 (United States, 2/2013).</b>                      TWA: 0.1 f/cc 8 hours. Form: containing asbestos                      STEL: 1 f/cc 30 minutes. Form: containing asbestos                      STEL: 1 f/cc 30 minutes. Form: not containing asbestos                      TWA: 20 mppcf 8 hours. Form: not containing asbestos</p>
limestone	<p><b>NIOSH REL (United States, 10/2013).</b>                      TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Respirable fraction                      TWA: 10 mg/m<sup>3</sup> 10 hours. Form: Total  <b>OSHA PEL (United States, 2/2013).</b>                      TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction                      TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p>
Iron oxide (Fe <sub>2</sub> O <sub>3</sub> )	<p><b>NIOSH REL (United States, 10/2013).</b>                      TWA: 5 mg/m<sup>3</sup>, (as Fe) 10 hours. Form: Dust and fumes  <b>ACGIH TLV (United States, 3/2015).</b>                      TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  <b>OSHA PEL (United States, 2/2013).</b>                      TWA: 10 mg/m<sup>3</sup> 8 hours.</p>
solvent naphtha (petroleum), light arom.	<p><b>ACGIH TLV (United States).</b>                      TWA Tentative: 25 ppm 8 hours.  <b>ACGIH TLV (United States, 3/2015).</b>                      TWA: 123 mg/m<sup>3</sup> 8 hours.                      TWA: 25 ppm 8 hours.  <b>NIOSH REL (United States, 10/2013).</b>                      TWA: 125 mg/m<sup>3</sup> 10 hours.                      TWA: 25 ppm 10 hours.</p>
1,2,4-trimethylbenzene	<p><b>ACGIH TLV (United States, 3/2015).</b>                      TWA: 20 ppm 8 hours.  <b>NIOSH REL (United States, 10/2013). Absorbed through skin.</b>                      CEIL: 150 mg/m<sup>3</sup>                      CEIL: 50 ppm  <b>OSHA PEL (United States, 2/2013).</b></p>
n-butanol	

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## SECTION 8: Exposure controls/personal protection

1,2,3-trimethylbenzene	<p>TWA: 300 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. ACGIH TLV (United States, 3/2015). TWA: 123 mg/m<sup>3</sup> 8 hours. TWA: 25 ppm 8 hours. NIOSH REL (United States, 10/2013). TWA: 125 mg/m<sup>3</sup> 10 hours. TWA: 25 ppm 10 hours.</p>
china clay	<p>ACGIH TLV (United States, 3/2015). TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction NIOSH REL (United States, 10/2013). TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Respirable fraction TWA: 10 mg/m<sup>3</sup> 10 hours. Form: Total OSHA PEL (United States, 2/2013). TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p>
respirable quartz	<p>OSHA PEL Z3 (United States, 2/2013). TWA: 250 MPPCF / (%SiO<sub>2</sub>+5) 8 hours. Form: Respirable TWA: 10 MG/M<sup>3</sup> / (%SiO<sub>2</sub>+2) 8 hours. Form: Respirable ACGIH TLV (United States, 3/2015). TWA: 0.025 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction NIOSH REL (United States, 10/2013). TWA: 0.05 mg/m<sup>3</sup> 10 hours. Form: respirable dust</p>
Cumen	<p>ACGIH TLV (United States, 3/2015). TWA: 50 ppm 8 hours. NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 245 mg/m<sup>3</sup> 10 hours. TWA: 50 ppm 10 hours. OSHA PEL (United States, 2/2013). Absorbed through skin. TWA: 245 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.</p>
ethylbenzene	<p>ACGIH TLV (United States, 3/2015). TWA: 20 ppm 8 hours. NIOSH REL (United States, 10/2013). STEL: 545 mg/m<sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 435 mg/m<sup>3</sup> 10 hours. TWA: 100 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 435 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours.</p>

### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### 8.2 Exposure controls

#### Appropriate engineering controls

Provide local exhaust and general ventilation systems to maintain airborne concentrations below OSHA, ACGIH, and manufacturer recommended exposure limits. Local exhaust ventilation is preferred because it prevents contaminant dispersion into work areas by controlling it at its source. Use local and general exhaust ventilation to effectively remove and prevent buildup of mists/vapors/fumes generated from the handling of this product.

Note: Local exhaust ventilation is designed to capture an emitted contaminant at or near its source, before the contaminant has a chance to disperse into the workplace air. General exhaust ventilation, also called dilution ventilation, is different from local exhaust ventilation because instead of capturing emissions at their source and removing them from the air, general exhaust ventilation allows the contaminant to be emitted into the workplace air and then dilutes the concentration of the contaminant to an acceptable level (e.g., to the PEL or below).

#### Individual protection measures

##### General :

Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.

##### Hygiene measures :

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

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## SECTION 8: Exposure controls/personal protection

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: chemical splash goggles.
Hand protection :	<p>Wear chemical-resistant gloves in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.</p> <p>Since the actual work situation is unknown, Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:</p> <p>Recommended: Silver Shield / 4H gloves, polyvinyl alcohol (PVA), Viton® May be used: nitrile rubber Short term exposure: neoprene rubber, butyl rubber, natural rubber (latex), polyvinyl chloride (PVC)</p>
Body protection :	Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product. Wear suitable protective clothing. Always wear protective clothing when spraying.
Respiratory protection :	* If working areas have insufficient ventilation, wear half or totally covering mask equipped with gas filter of type Organic Vapor, when grinding use particle filter of type P95, P99 or P100. When spraying use a combined filter (organic vapor / HEPA or organic vapor / P100 type). Be sure to use approved/certified respirator or equivalent. Always wear an air-fed respirator when spraying in a continuous and prolonged work situation (e.g. hood with supply of fresh or compressed air or a full face, powered air-purifying filter).
Protective clothing (pictograms) :	 <p>Note: Application of paint products by spraying requires additional safety precautions: Full body suit, Full face respirator with air supplied.</p>

## 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Color :	Red Oxide
Odor :	Solvent-like
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	Testing not relevant or not possible due to nature of the product.
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	Closed cup: 17°C (62.6°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	Flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials. Slightly flammable in the presence of the following materials or conditions: reducing materials. 0.8 - 11.3 vol %
Upper/lower flammability or explosive limits :	
Vapor pressure :	Testing not relevant or not possible due to nature of the product.
Vapor density :	Testing not relevant or not possible due to nature of the product.
Relative density :	1.375 g/cm <sup>3</sup>
Solubility(ies) :	Partially soluble in the following materials: cold water and hot water.
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Testing not relevant or not possible due to nature of the product.

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## SECTION 9: Physical and chemical properties

Decomposition temperature :	Testing not relevant or not possible due to nature of the product.
Viscosity :	Testing not relevant or not possible due to nature of the product.
Explosive properties :	Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

### 9.2 Other information

Solvent(s) % by weight (Included exempt solvent(s)):	29.9 % (w/w)
Water % by weight :	Weighted average: 0 %
VOC content (Coatings) :	3.43 lbs/gal (411 g/l)
VOC content (Regulatory) :	3.43 lbs/gal (411 g/l)
TOC Content (Volatile) :	Weighted average: 331 g/l
Solvent Gas :	Weighted average: 0.09 m <sup>3</sup> /l

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

### 10.2 Chemical stability

The product is stable.

### 10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

### 10.4 Conditions to avoid

Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

### 10.5 Incompatible materials

Reactive or incompatible with the following materials: oxidizing materials and acids.

### 10.6 Hazardous decomposition products

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

Decomposition products may include the following materials: carbon oxides metal oxide/oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

### Acute toxicity

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## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
limestone solvent naphtha (petroleum), light arom.	LD50 Oral	Rat	>2000 mg/kg	-
	LC50 Inhalation Vapor	Rat	6193 mg/m <sup>3</sup>	4 hours
1,2,4-trimethylbenzene	LD50 Dermal	Rabbit	3160 mg/kg	-
	LD50 Oral	Rat	3492 mg/kg	-
	LC50 Inhalation Vapor	Rat	18000 mg/m <sup>3</sup>	4 hours
n-butanol	LD50 Oral	Rat	5 g/kg	-
	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
Cumene	LD50 Oral	Rat	790 mg/kg	-
	LC50 Inhalation Vapor	Rat	39000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	12300 uL/kg	-
ethylbenzene	LD50 Oral	Rat	1400 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

### Acute toxicity estimates

Route	ATE value
Oral	21571.7 mg/kg
Dermal	41833.3 mg/kg
Inhalation (gases)	115870.4 ppm
Inhalation (vapors)	463.5 mg/l

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
Talc solvent naphtha (petroleum), light arom.	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent
	Eyes - Mild irritant	Rabbit	-	24 hours 100 microliters
n-butanol	Respiratory - Mild irritant	Rabbit	-	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams
Cumene	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 100 milligrams
ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
	Respiratory - Mild irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-

### Carcinogen Classification

Product/ingredient name	IARC	NTP	OSHA
Talc	1	-	-
Iron oxide (Fe2O3)	3	-	-
respirable quartz	1	Known to be a human carcinogen.	-
Cumene	2B	Reasonably anticipated to be a human carcinogen.	-
ethylbenzene	2B	-	-

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
solvent naphtha (petroleum), light aliph.	Category 3	Not applicable.	Narcotic effects
solvent naphtha (petroleum), light arom.	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
1,2,4-trimethylbenzene	Category 3	Not applicable.	Respiratory tract irritation
n-butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
Cumene	Category 3	Not applicable.	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

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## SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
respirable quartz	Category 1	Inhalation	lungs
ethylbenzene	Category 2	Not determined	hearing organs

### Aspiration hazard

Product/ingredient name	Result
solvent naphtha (petroleum), light aliph.	ASPIRATION HAZARD - Category 1
solvent naphtha (petroleum), light arom.	ASPIRATION HAZARD - Category 1
Cumen	ASPIRATION HAZARD - Category 1
ethylbenzene	ASPIRATION HAZARD - Category 1

### Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential chronic health effects

Other information : No additional known significant effects or critical hazards.

## SECTION 12: Ecological information

### 12.1 Toxicity

Do not allow to enter drains or watercourses. Harmful to aquatic life with long lasting effects.

When spilled, this product may act as an oil, causing a film, sheen, emulsion, or sludge at or beneath the surface of a body of water. Oils of any kind can cause: (a) drowning of waterfowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility; (b) lethal effect on fish by coating gill surfaces, preventing respiration; (c) potential fish kills resulting from alteration in biochemical oxygen demand; (d) asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom; and (e) adverse aesthetic effects of fouled shoreline and beaches.

Product/ingredient name	Result	Species	Exposure
solvent naphtha (petroleum), light arom.	Acute EC50 2.6 mg/l	Algae - Pseudokirchneriella subcapitata (green algae)	96 hours
	Acute EC50 6.14 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 9.22 mg/l	Fish - Oncorhynchus mykiss (rainbow trout)	96 hours
1,2,4-trimethylbenzene	Acute LC50 4910 µg/l Marine water	Crustaceans - Elasmopus pectinicus - Adult	48 hours
n-butanol	Acute LC50 7720 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute EC50 1328 mg/l	Daphnia	96 hours
Cumen	Acute LC50 1.376 mg/l	Fish	96 hours
	Acute EC50 2.6 mg/l	Algae	72 hours
	Acute EC50 7400 - 11290 µg/l Fresh water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 10600 - 14100 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 2700 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethylbenzene	Acute NOEC 0.35 mg/l	Algae	21 days
	Chronic NOEC <1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
solvent naphtha (petroleum), light arom.	-	>70 % - Readily - 28 days	-	-
n-butanol	OECD 301D Ready Biodegradability - Closed Bottle Test	92 % - 20 days	-	-
ethylbenzene	-	>70 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
solvent naphtha (petroleum), light arom.	-	-	Readily
n-butanol	-	-	Readily
ethylbenzene	-	-	Readily

### 12.3 Bioaccumulative potential

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## SECTION 12: Ecological information

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
solvent naphtha (petroleum), light aliph.	-	10 - 2500	high
solvent naphtha (petroleum), light arom.	-	10 - 2500	high
1,2,4-trimethylbenzene	3.63	243	low
n-butanol	1	3.16	low
1,2,3-trimethylbenzene	3.66	194.98	low
Cumen	3.55	94.69	low
ethylbenzene	3.6	-	low

### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>): No known data available in our database.

Mobility: No known data available in our database.

### 12.5 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7 and Section 8 for additional handling information and protection of employees.

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. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
1-Butanol (l); n-Butyl alcohol (l)	71-36-3	Listed	U031

## SECTION 14: Transport information

Transport may take place according to national regulation or DOT for transport by road and by train, IMDG for transport by sea, IATA for Air shipment. Refer to specific Dangerous Goods Transport requirements under 49CFR, ICAO and IATA.

14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env* Additional information

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## SECTION 14: Transport information

DOT Code	UN1263	PAINT, (solvent naphtha (petroleum), light arom.)	3 -	 	II Yes.	The marine pollutant mark is not required when transported on inland waterways in sizes of ≤5 L or ≤5 kg or by road, rail, or inland air in non-bulk sizes.  <b>Reportable quantity</b> (xylene) 11303.1 lbs / 5131.6 kg [985.91 gal / 3732.1 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
TDG Code	UN1263	PAINT, (solvent naphtha (petroleum), light arom.)	3 -	 	II Yes.	Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2, 18-2, 19 (Class 3), 2, 7 (Marine pollutant mark).  The marine pollutant mark is not required when transported by road or rail.
SCT Code	UN1263	PAINT	3 -		II No.	-
IMDG Code	UN1263	PAINT	3 -		II No.	<b>Emergency schedules (EmS)</b> F-E, S-E
IATA Code	UN1263	PAINT	3 -		II No.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

Code : Classification  
PG\* : Packing group  
Env.\* : Environmental hazards

### 14.6 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.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations :

Not determined.

**TSCA 4(a) final test rules:** nonane

**TSCA 8(a) PAIR:** nonane

**TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

**United States inventory (TSCA 8b):** Not determined.

**Clean Water Act (CWA) 307:** ethylbenzene; zinc ferrite brown spinel

**Clean Water Act (CWA) 311:** xylene; ethylbenzene

**Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) :** Listed

Product/ingredient name	CAS number	Concentration
Magnesite	546-93-0	0.16107
xylene	1330-20-7	0.88471
Cumen	98-82-8	0.18212
ethylbenzene	100-41-4	0.14312
2-(2-butoxyethoxy)ethanol	112-34-5	0.0025401
cobalt bis(2-ethylhexanoate)	138-52-7	0.038351
glycolethers	*	0.0089502

**Clean Air Act Section 602 Class I Substances :** Not listed

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## SECTION 15: Regulatory information

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 - SARA 311/312:

SARA 302/304: No products were found.

SARA 311/312 Hazards Identification: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Product/ingredient name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
solvent naphtha (petroleum), light aliph.	10 - 25	Yes	No.	No.	Yes.	No.
solvent naphtha (petroleum), light arom.	5 - 10	Yes.	No.	No.	Yes.	No.
1,2,4-trimethylbenzene	3 - 5	Yes.	No.	No.	Yes.	No.
n-butanol	1 - 3	Yes.	No.	No.	Yes.	No.
1,2,3-trimethylbenzene	1 - 3	Yes.	No.	No.	Yes.	No.
respirable quartz	0.1 - 0.5	No.	No.	No.	No.	No.
Cumene	0.1 - 0.5	Yes.	No.	No.	No.	Yes.
ethylbenzene	0.1 - 0.5	Yes.	No.	No.	Yes.	Yes.

SARA 313 :

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

Form R - Reporting requirements :

Product/ingredient name	CAS number	Concentration
1,2,4-trimethylbenzene	95-63-6	3 - 5
n-butanol	71-36-3	1 - 3
zinc ferrite brown spinel	68187-51-9	1 - 3
ethylbenzene	100-41-4	0 - 1

Supplier notification :

Product/ingredient name	CAS number	Concentration
1,2,4-trimethylbenzene	95-63-6	3 - 5
n-butanol	71-36-3	1 - 3
zinc ferrite brown spinel	68187-51-9	1 - 3
ethylbenzene	100-41-4	0 - 1

State regulations :

Connecticut Carcinogen Reporting: None of the components are listed.

Connecticut Hazardous Material Survey: None of the components are listed.

Florida substances: None of the components are listed.

Illinois Chemical Safety Act: None of the components are listed.

Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.

Louisiana Reporting: None of the components are listed.

Louisiana Spill: None of the components are listed.

Massachusetts Spill: None of the components are listed.

Massachusetts Substances: The following components are listed: SOAPSTONE; CALCIUM CARBONATE; PSEUDOCUMENE; TRIMETHYL BENZENE; IRON OXIDE DUST; N-BUTYL ALCOHOL

Michigan Critical Material: None of the components are listed.

Minnesota Hazardous Substances: None of the components are listed.

New Jersey Hazardous Substances: The following components are listed: SOAPSTONE; CALCIUM CARBONATE; LIMESTONE; PSEUDOCUMENE; 1,2,4-TRIMETHYL BENZENE; TRIMETHYL BENZENE (mixed isomers); BENZENE, TRIMETHYL-; CUMENE; BENZENE, (1-METHYLETHYL-); IRON OXIDE; FERRIC OXIDE; n-BUTYL ALCOHOL; 1-BUTANOL; KAOLIN; ZINC compounds; CARBON BLACK

New Jersey Spill: None of the components are listed.

New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.

New York Acutely Hazardous Substances: The following components are listed: Cumene; Benzene, 1-methylethyl-; Butyl alcohol; 1-Butanol

New York Toxic Chemical Release Reporting: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed: SOAPSTONE DUST; LIMESTONE; PSEUDOCUMENE; BENZENE, TRIMETHYL-; BENZENE, (1-METHYLETHYL-); IRON OXIDE (FE2O3); 1-BUTANOL; KAOLIN; ZINC COMPOUNDS; CARBON BLACK

Rhode Island Hazardous Substances: None of the components are listed.

California Prop. 65 PFF :

WARNING: This product contains a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

# Rigid Frame Flanges and Splice Plates



## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Trade Name:** Merchant, rebar, structural, and select sheet steel grades  
**CAS Number:** Not applicable  
**Synonyms:** Carbon Steels  
**Use/Description:** Bar and structural steel products, billets (sheet steel for Castrip®), grinding balls

<b>Nucor Mill Locations</b>		<b>24 Hour Contact – CHEMTREC 1-800-424-9300</b>	
Nucor Steel – South Carolina 300 Steel Mill Road Darlington, S.C. 29540 (843) 393-5841	Nucor Steel Kankakee, Inc. One Nucor Way Bourbonnais, IL 60914 (815) 939-5541	Nucor Steel Jackson, Inc. 3630 Fourth Street Flowood, MS 39232 (601) 939-1623	Nucor Steel – Nebraska 2911 East Nucor Road Norfolk, Nebraska 68701 (402) 644-0200
Nucor Steel – Auburn, Inc. 25 Quarry Road Auburn, N.Y. 13021 (315) 253-4561	Nucor Steel – Utah West Cemetery Road Plymouth, Utah 84330 (435) 458-2300	Nucor Steel Birmingham, Inc. 2301 F.L. Shuttlesworth Drive Birmingham, Alabama 35234 (205) 250-7400	Nucor Steel Seattle, Inc. 2424 SW Andover Seattle, WA 98106 (206) 933-2222
Nucor Steel – Texas U.S. Highway 79 South Jewett, Texas 75846 (903) 626-4461	Nucor Steel Marion, Inc. 912 Cheney Avenue Marion, Ohio 43302 (740) 383-4011	Nucor Steel – Berkeley 1455 Hagan Avenue Huger, SC 29450 (843) 336-6000	Nucor Yamato Steel/ Nucor Castrip Arkansas, LLC 5929 E. State Hwy 18 Armored, AR 72310 (870) 762-5500
Nucor Steel Connecticut, Inc. 35 Toelles Road Wallingford, CT 06492 (203) 265-0615	Nucor Steel Kingman, LLC 3000 West Old Highway 66 Kingman, AZ 86413 (928) 718-7035		

For general product information, contact mill as listed above. For emergencies, use the 24 Hour Contact.

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

STEEL PRODUCTS AS SOLD BY NUCOR ARE NOT HAZARDOUS PER OSHA GHS 29 CFR 1910, 1915, 1926. However, individual customer processes, (such as welding, sawing, brazing, grinding, abrasive blasting, and machining) may result in the formation of fumes, dust (combustible or otherwise), and/or particulate that may present the following hazards:

**OSHA Hazards:** Carcinogen  
Skin Sensitizer  
Target Organ Effect – Lungs

**GHS Classification:** Carcinogenicity (Category 2)  
Skin Sensitization (Category 1)  
Specific Target Organ Toxicity-Repeated Exposure (Category 1)

**Pictogram(s):**



## Carbon and Alloy Steels

**Signal Word:** Danger

### **Hazard Statement(s)**

H317: Dust/fumes may cause an allergic skin reaction.

H351: Dust/fumes suspected of causing cancer via inhalation.

H372: Inhalation of dust/fumes causes damage to respiratory tract through prolonged or repeated exposure.

### **Precautionary Statement(s)**

P202: Do not handle until all safety precautions have been read and understood.

P261: Avoid breathing dust/fumes.

P281: Use personal protective equipment as required.

P308+P313: If exposed or concerned: Get medical advice/attention.

### **Potential Health Effects**

#### **Eye Contact**

Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

#### **Skin Contact**

Dusts or particulates may cause mechanical irritation due to abrasion. Coated steel may cause skin irritation in sensitive individuals (see Section 16 for additional information.) Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

#### **Inhalation**

Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness. It is characterized by a sweet or metallic taste in the mouth, accompanied by dryness and irritation of the throat, cough, shortness of breath, pulmonary edema, general malaise, weakness, fatigue, muscle and joint pains, blurred vision, fever and chills. Typical symptoms last from 12 to 48 hours.

#### **Ingestion**

Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

#### **Potential Fire and Explosion Hazards**

Under normal conditions, steel products do not present fire or explosion hazards, and dust generated by handling steel products is oxidized and not combustible. Processing of steel product by some individual customers may produce potentially combustible dust that may represent a fire or explosion hazard.

#### **Chronic or Special Toxic Effects**

Repeated exposure to fine dusts may inflame the nasal mucosa and cause changes to the lung. In addition, a red-brown pigmentation of the eye and/or skin may occur. Welding fumes have been associated with adverse health effects. Contains components that may cause cancer or reproductive effects. The following components are listed by NTP, OSHA, or IARC as carcinogens: Nickel, chromium (hexavalent), cobalt, lead, cadmium, antimony (trioxide), arsenic, beryllium. See Section 11, for additional, specific information on effects noted above.

#### **Target Organs**

Overexposure to specific components of this product that are generated in dusts or fumes may cause adverse effects to the following organs or systems: eyes, skin, liver, kidney, central nervous system, cardiovascular system, respiratory system.

#### **Medical Conditions Aggravated by Exposure**

Diseases of the skin such as eczema may be aggravated by exposure. Also, disorders of the respiratory system including asthma, bronchitis, and emphysema. Long-term inhalation exposure to agents that cause pneumoconiosis (e.g. dust) may act synergistically with inhalation of oxide fumes or dusts of this product.

Carbon and Alloy Steels

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS No.	% Weight	Exposure Limits	
			ACGIH TLV (mg/m <sup>3</sup> )	OSHA PEL (mg/m <sup>3</sup> )
<b>Base Metal:</b>				
Iron (Fe)	7439-89-6	Balance	5 Oxide Dust/Fume	10 Oxide Dust/Fume
<b>Alloying Elements</b>				
Aluminum (Al)	7429-90-5	<0.05	10 Dust 5 Fume	15 Dust 5 Respirable fraction
Antimony (Sb)	7440-36-0	<0.9	0.5 As Antimony	0.5 As Antimony
Arsenic (As)	7440-38-2	<0.09	0.01 As Arsenic (A1 Carcinogen)	0.01 As Arsenic
Beryllium (Be)	7440-41-7	<0.09	0.00 As Beryllium (A1 Carcinogen) 2 As Beryllium (STEL) 0.01	0.002 As Beryllium 0.005 As Beryllium (Ceiling)
Boron (B)	7440-42-8	<0.9	10 Oxide Dust	15 Oxide Dust
Cadmium (Cd)	7440-43-9	<0.01	0.01 As Cadmium (A2 Carcinogen) 0.00 Respirable fraction 2	0.005 As Cadmium 0.0025 As Cadmium (Action Level)
Calcium (Ca)	1305-78-8	<0.9	2 Oxide Dust	5 Oxide Dust
Carbon (C)	7440-44-0	<1.2	Not Established	Not Established
Chromium (Cr)	7440-47-3	0.01-1.2	0.5 Metal	1 Metal
Cobalt (Co)	7440-48-4	<0.09	0.02 As Cobalt (A3 Carcinogen)	0.1 Metal/Dust/Fume
Copper (Cu)	7440-50-8	<0.9	1 Dust 0.2 Fume	1 Dust 0.1 Fume
Lead (Pb)	7439-92-1	<0.07	0.05 Dust / Fume (A3 Carcinogen)	0.05 Dust / Fume
Magnesium (Mg)	7439-95-4	<0.9	Not Established	Not Established
Manganese (Mn)	7439-96-5	0.2-2	0.2 Elemental Mn and Inorg Compounds	5 Fume (Ceiling)
Molybdenum (Mo)	7439-98-7	<0.9	10 Insoluble Compounds	15 Insoluble Compounds
Niobium (Nb)	7440-03-1	<0.9	Not Established	Not Established
Nickel (Ni)	7440-02-0	<1.0	1.5 Metal	1 Metal and Insoluble Compounds
Nitrogen (N)	7727-37-9	<0.9	Simple Asphyxiant	Simple Asphyxiant
Phosphorus (P)	7723-14-0	<0.9	0.1 Phosphorus	0.1 Phosphorus
Selenium (Se)	7782-49-2	<0.9	0.2 Selenium	0.2 Selenium
Silicon (Si)	7440-21-3	<0.9	10 Dust	15 Dust
Sulfur (S)	7446-09-05	<0.9	5.2 Sulfur Dioxide 13 Sulfur Dioxide (STEL)	13 Sulfur Dioxide
Tin (Sn)	7440-31-5	<0.9	2 Metal, Oxide and Inorganic Compounds	2 Inorganic Compounds
Titanium (Ti)	7440-32-6	<0.9	Not Established	Not Established
Tungsten (W)	7440-33-7	<0.9	5 Insoluble Compounds as W 10 Insoluble Compounds as W (STEL)	Not Established
Vanadium (V)	7440-62-2	<0.9	0.05 Oxide Dust/Fume	0.5 Oxide Dust (Ceiling) 0.1 Oxide Fume (Ceiling)
Zinc (Zn)	7440-66-6	0.0-0.10	10 Oxide Dust 5 Oxide Fume 10 Oxide Fume (STEL)	5 Oxide Fume 10 Oxide Dust

NOTE: No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel over all. The above listing is a summary of elements used in alloying Nucor Steel Products. Various grades of steel will contain different combinations of these elements and/or trace materials. Exact specifications may be found by calling the division and asking for a specifications sheet.



## Carbon and Alloy Steels

### 4. FIRST AID MEASURES

**Eye Contact** - In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

**Skin Contact** - In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.

**Inhalation** - In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this SDS develop.

**Ingestion** - Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.

**Notes to Physician** - Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self limited in 24-48 hours. Chronic exposure to dusts may result in pneumoconiosis of mixed type.

### 5. FIRE FIGHTING MEASURES

**Flash Point (Method)** - Not applicable

**Flammable Limits (% volume in air)** - Not applicable

**Auto ignition Temperature** - Not applicable

**Extinguishing Media** - For molten metal, use dry powder or sand. For steel dust use dry sand, water, foam, argon or nitrogen.

**Special Fire Fighting Procedures** - Do not use water on molten metal. Do not use Carbon Dioxide (CO<sub>2</sub>). Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

**Unusual Fire or Explosion Hazards** - Steel products do not present fire or explosion hazards under normal conditions. Any non-oxidized fine metal particles/ dust generated by grinding, sawing, abrasive blasting, or individual customer processes may produce materials that the customer should test for combustibility and other hazards in accordance with applicable regulations. High concentrations of combustible metallic fines in the air may present an explosion hazard.

### 6. ACCIDENTAL RELEASE MEASURES

**Precautions if Material is Spilled or Released** - Emergency response is unlikely unless in the form of combustible dust. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this SDS (see section 8). Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways. Specific standards and regulations may be applicable to materials generated by individual customer processes. As appropriate, these standards and regulations should be consulted for applicability.

**Fire and Explosion Hazards** - Some customer processes may generate combustible dust that may require specific precautions when cleaning spills or releases of dust.

**Environmental Precautions** - Some grades of steel may contain reportable quantities of alloying elements. See Section 15 for additional information.

**Waste Disposal Methods** - Dispose of used or unused product in accordance with applicable Federal, State, and Local regulations. Please recycle.

### 7. HANDLING AND STORAGE

**Storage Temperatures** - Stable under normal temperatures and pressures.

**Precautions to be Taken in Handling and Storing** - Store away from strong oxidizers. Dusts and/or powders, alone, or combined with process specific fluids, may form explosive mixtures with air. Applicable Federal, state and local laws and regulations may require testing dust generated from processing of steel

## Carbon and Alloy Steels

products to determine if it represents a fire or explosion hazard and to determine appropriate protection methods. Avoid breathing dusts or fumes.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Operations with potential for generating high concentrations of airborne particulates or fumes should be evaluated and controlled as necessary.

**Eye Protection** - Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding or cutting.

**Skin** - Appropriate protective gloves should be worn as necessary. Good personal hygiene practices should be followed including cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing.

**Respiratory Protection** - NIOSH/MSHA approved dust/fume/mist respirator should be used to avoid excessive exposure. See Section 3 for component material information exposure limits. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.

**Ventilation** - Provide general and/or local exhaust ventilation to control airborne levels of dust or fumes below exposure limits.

**Exposure Guidelines** - No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. See Section 3 for component materials. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance and Odor** - Silver grey to grey black with metallic luster.

**Boiling Point** - Not applicable

**Melting Point** - Approximately 2800 °F

**pH** - Not applicable

**Specific Gravity (at 15.6°C)** - Not applicable

**Density (at 15.6 °C)** - Not applicable

**Vapor Pressure** - Not applicable

**Vapor Density (air = 1)** - Not applicable

**% Volatile, by Volume** - Not applicable

**Solubility in Water** - Insoluble.

**Evaporation Rate (Butyl Acetate = 1)** - Not applicable

**Other Physical and Chemical Data** - None

### 10. STABILITY AND REACTIVITY

**Stability** - Stable

**Conditions to Avoid** - Steel at temperatures above the melting point may liberate fumes containing oxides of iron and alloying elements. Avoid generation of airborne fume.

**Hazardous Polymerization** - Will not occur.

**Incompatibility (Materials to Avoid)** - Reacts with strong acids to form hydrogen gas. Do not store near strong oxidizers.

**Hazardous Decomposition Products** - Metallic fumes may be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1

### 11. TOXICOLOGICAL INFORMATION

The primary component of this product is iron. Long-term exposure to iron dusts or fumes can result in a condition called siderosis which is considered to be a benign pneumoconiosis. Symptoms may include chronic bronchitis, emphysema, and shortness of breath upon exertion. Penetration of iron particles in the skin or eye may cause an exogenous or ocular siderosis which may be characterized by a red-brown

## Carbon and Alloy Steels

*pigmentation of the affected area.* Ingestion overexposures to iron may affect the gastrointestinal, nervous, and hematopoietic system and the liver. Iron and steel founding, but not iron or iron oxide, has been listed as carcinogenic (Group 1) by IARC.

When this product is welded, fumes are generated. Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of the metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen (Group 2B). There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxins, e.g., lead, which may be present in the coating material of this product.

Breathing fumes or dusts of this product may result in metal fume fever, which is an illness produced by inhaling metal oxides. These oxides are produced by heating various metals including cadmium, zinc, magnesium, copper, antimony, nickel, cobalt, manganese, tin, lead, beryllium, silver, chromium, aluminum, selenium, iron, and arsenic. The most common agents involved are zinc and copper.

This product may contain small amounts of manganese. Prolonged exposure to manganese dusts or fumes is associated with "manganism", a Parkinson-like syndrome characterized by a variety of neurological symptoms including muscle spasms, gait disturbances, tremors, and psychoses.

This product may contain small amounts of cadmium. Primary target organs for cadmium overexposure are the lung and the kidney. Because of its cumulative nature, chronic cadmium poisoning can cause serious disease which takes many years to develop and may continue to progress despite cessation of exposure. Progression of the disease may not reflect current exposure conditions. It is also capable of causing a painful osteomalacia called "Itai-Itai" in postmenopausal women, and has caused developmental effects and/or reproductive effects in male and female animals. Cadmium is a listed carcinogen by NTP, OSHA, and IARC (Group 1).

This product may contain small amounts of chromium. Prolonged and repeated overexposure to chromium dusts or fumes may cause skin ulcers, nasal irritation and ulceration, kidney damage and cancer of the respiratory system. Chromium is skin sensitizer. Cancer is generally attributed to the hexavalent (+6) form of chromium which is listed as a carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of nickel. Prolonged and repeated contact with nickel may cause sensitization dermatitis. Inhalation of nickel compounds has caused lung damage as well as sinus, nasal and lung cancer in laboratory animals. Nickel is a listed carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of vanadium. Adverse effects from dermal, inhalation or parenteral exposure to various vanadium compounds have been reported. The major target for vanadium pentoxide toxicity is the respiratory tract. Fumes or dust can cause severe eye and respiratory irritation, and systemic effects. Chronic bronchitis, green tongue, conjunctivitis, pharyngitis, rhinitis, rales, chronic productive cough, and tightness of the chest have been reported following overexposure. Allergic reactions resulting from skin and inhalation exposures have also been reported. A statistical association between vanadium air levels and lung cancer has been suggested, but vanadium currently is not regarded as a human carcinogen.

This product may contain small amounts of lead. Lead can accumulate in the body. Consequently, exposure to fumes or dust may produce signs of polyneuritis, diminished vision and peripheral neuropathy, such as tingling and loss of feeling in fingers, arms and legs. Lead is a known reproductive and developmental toxin. It is also associated with central nervous system disorders, anemia, kidney dysfunction and neurobehavioral abnormalities. The brain is a major target organ for lead exposure. Elemental lead is listed as an IARC 2B carcinogen.

The product may contain small amounts of copper. Copper dust and fumes can irritate the eyes, nose and throat causing coughing, wheezing, nosebleeds, ulcers and metal fume fever. Other effects from repeated inhalation of copper fumes include a metallic or sweet taste, and discoloration of skin, teeth or hair. Copper also may cause an allergic skin reaction. Overexposure to copper can affect the liver.

## Carbon and Alloy Steels

### 12. ECOLOGICAL INFORMATION

**Aquatic Ecotoxicological Data** - No specific information available on this product.

**Environmental Fate Data** - No specific information available on this product.

### 13. DISPOSAL CONSIDERATIONS

Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. Dispose in accordance with federal, state, and local health and environmental regulations. Prevent materials from entering drains, sewers, or waterways.

### 14. TRANSPORT INFORMATION

**DOT Proper Shipping Name** - Not regulated

**DOT Hazard Classification** - Not regulated

**UN/NA Number** - Not applicable

**DOT Packing Group** - Not applicable

**Labeling Requirements** - Not applicable

**Placards** - Not applicable

**DOT Hazardous Substance** - Not applicable

**DOT Marine Pollutant** - Not applicable

### 15. REGULATORY INFORMATION

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, dusts and fumes from this product may be combustible or hazardous and require protection to comply with applicable Federal, state and local laws and regulations.

**California Proposition 65:** This product contains chemicals (antimony [oxide], arsenic, beryllium, chromium [hexavalent], cobalt, cadmium, lead, nickel) known to the State of California to cause cancer and chemicals (cadmium, lead) known to the State of California to cause birth defects or other reproductive harm.

**Massachusetts Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

**Pennsylvania Hazardous Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

**New Jersey Hazardous Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

#### **Toxic Substances Control Act (TSCA)**

Components of this product are listed on the TSCA Inventory.

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

Steel is not reportable, however, it contains hazardous substances that may be reportable if released in pieces with diameters less than or equal to 0.004 inches (RQ marked with a "\*\*").

<u>Chemical Name</u>	<u>Reportable Quantity (in lb)</u>
Antimony	5000*
Arsenic	1*
Beryllium	10*
Cadmium	10*
Chromium	5000*
Copper	5000*

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<u>Chemical Name</u>	<u>Reportable Quantity (in lb)</u>
Lead	10*
Nickel	100*
Phosphorus	1
Selenium	100*
Zinc	1000*

**Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III**

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Effect, Delayed Health Effect

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right – To – Know Act of 1986 (40 CFR 372):

**SECTION 313 REPORTABLE INGREDIENTS:**

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Concentration (% by weight)</u>	<u>Reportable</u>
Aluminum	7429-90-5	<0.05	No – Less than 1%
Antimony	7440-36-0	<0.9	No – Less than 1%
Arsenic	7440-38-2	<0.09	No – Less than 0.1%
Beryllium	7440-41-7	<0.09	No – Less than 0.1%
Cadmium	7440-43-9	<0.01	No – Less than 0.1%
Chromium	7440-47-3	0.01-1.2	Yes – Greater than 0.1%
Cobalt	7440-48-4	<0.09	No – Less than 0.1%
Copper	7440-50-8	<0.9	No – Less than 1%
Lead	7439-92-1	<0.07	Yes
Manganese	7439-96-5	0.2-2	Yes – Greater than 1%
Nickel	7440-02-0	<1.0	Yes – Greater than 0.1%
Phosphorus	7723-14-0	<0.9	No – Less than 1%
Selenium	7782-49-2	<0.9	No – Less than 1%
Vanadium	7440-62-2	<0.9	No – Less than 1%
Zinc	7440-66-6	0-0.10	No – Less than 1%

Concentrations based on analytical data and process knowledge of typical products distributed by the facility.

**16. OTHER INFORMATION**

This SDS covers Nucor product as delivered from the Nucor facility, but does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. This could include a variety of materials including oils, paints, galvanization, etc. that are not included in this SDS. Additionally, specialty orders may require application of coating material not listed in this SDS. SDSs for any Nucor-applied specialty coating will be provided separately. During welding, precautions should be taken for airborne contaminants that may originate from components of the welding rod. Arc or spark generated when welding or burning could be a source of ignition for combustible and/or flammable materials. The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product.



## SAFETY DATA SHEET

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Trade Name:** Sheet Steel

**CAS Number:** Not applicable

**Synonyms:** Hot Band, Cold Rolled, Hot Roll Pickled, Galvanized, Galvanneal

**Use/Description:** Steel for thin gauge products and sheet steel for Castrip®

<b>Company Identification:</b>	<b>24 Hour Contact – CHEMTREC 1-800-424-9300</b>
Nucor Steel – Arkansas 7301 E. County Road 142 Blytheville, AR 72315	Safety Officer [8:00 am – 5:00 pm]: 1-(870) 762-2100
Nucor Castrip Arkansas, LLC 6061 E. State Highway 18 Blytheville, Arkansas 72315	Safety Officer [8:00 am – 5:00 pm]: 1-(870) 762-5500
Nucor Steel – Berkeley 1455 Hagan Avenue Huger, SC 29450	Safety Officer [8:00 am – 5:00 pm]: 1-(843) 336-6000
Nucor Steel Decatur, LLC 4301 Iverson Boulevard Trinity, AL 35673	Safety Officer [8:00 am – 5:00 pm]: 1-(256) 301-3500
Nucor Steel – Indiana 4537 South Nucor Road Crawfordsville, IN 47933	Safety Officer [8:00 am – 5:00 pm]: 1-(765) 364-1323
Nucor Castrip Indiana 4537 South Nucor Road Crawfordsville, IN 47933	Safety Officer [8:00 am – 5:00 pm]: 1-(765) 364-1323
Nucor Steel Gallatin 4831 U.S. Hwy 42 West Ghent, KY 41045	Safety Officer [8:00 am – 5:00 pm]: 1-(859) 567-3100
Nucor Steel – Tuscaloosa, Inc. 1700 Holt Road, NE Tuscaloosa, Alabama 35404	Safety Officer [8:00 am – 5:00 pm]: 1-(205) 556-1310

For general product information, contact facility as listed above. For emergencies, use the 24 Hour Contact.

### 2. HAZARDS IDENTIFICATION

#### **EMERGENCY OVERVIEW**

STEEL PRODUCTS AS SOLD BY NUCOR ARE NOT HAZARDOUS PER OSHA GHS 29 CFR 1910, 1915, 1926. However, individual customer processes, (such as welding, sawing, brazing, grinding, abrasive blasting, and machining) may result in the formation of fumes, dust (combustible or otherwise), and/or particulate that may present the following hazards:

## Sheet Steel

**OSHA Hazards:** Carcinogen  
Skin Sensitizer  
Target Organ Effect – Lungs

**GHS Classification:** Carcinogenicity (Category 2)  
Skin Sensitization (Category 1)  
Specific Target Organ Toxicity-Repeated Exposure (Category 1)

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statement(s)**

H317: Dust/fumes may cause an allergic skin reaction.  
H351: Dust/fumes suspected of causing cancer via inhalation.  
H372: Inhalation of dust/fumes causes damage to respiratory tract through prolonged or repeated exposure

**Precautionary Statement(s)**

P202: Do not handle until all safety precautions have been read and understood.  
P261: Avoid breathing dust/fumes.  
P281: Use personal protective equipment as required.  
P308+P313: If exposed or concerned: Get medical advice/attention.

**Potential Health Effects**

**Eye Contact**

Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

**Skin Contact**

Dusts or particulates may cause mechanical irritation due to abrasion. Coated steel may cause skin irritation in sensitive individuals (see Section 16 for additional information.) Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

**Inhalation**

Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness. It is characterized by a sweet or metallic taste in the mouth, accompanied by dryness and irritation of the throat, cough, shortness of breath, pulmonary edema, general malaise, weakness, fatigue, muscle and joint pains, blurred vision, fever and chills. Typical symptoms last from 12 to 48 hours.

**Ingestion**

Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

**Potential Fire and Explosion Hazards**

Under normal conditions, steel products do not present fire or explosion hazards, and dust generated by handling steel products is oxidized and not combustible. Processing of steel product by some individual customers may produce potentially combustible dust that may represent a fire or explosion hazard.

## Sheet Steel

### Chronic or Special Toxic Effects

Repeated exposure to fine dusts may inflame the nasal mucosa and cause changes to the lung. In addition, a red-brown pigmentation of the eye and/or skin may occur. Welding fumes have been associated with adverse health effects. Contains components that may cause cancer or reproductive effects. The following components are listed by NTP, OSHA, or IARC as carcinogens: Nickel, chromium (hexavalent), cobalt, lead, cadmium, antimony (trioxide), arsenic, and beryllium. See Section 11, for additional, specific information on effects noted above.

### Target Organs

Overexposure to specific components of this product that are generated in dusts or fumes may cause adverse effects to the following organs or systems: eyes, skin, liver, kidney, central nervous system, cardiovascular system, respiratory system.

### Medical Conditions Aggravated by Exposure

Diseases of the skin such as eczema may be aggravated by exposure. Also, disorders of the respiratory system including asthma, bronchitis, and emphysema. Long-term inhalation exposure to agents that cause pneumoconiosis (e.g. dust) may act synergistically with inhalation of oxide fumes or dusts of this product.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	% Weight	Exposure Limits			
			ACGIH TLV (mg/m <sup>3</sup> )		OSHA PEL (mg/m <sup>3</sup> )	
<b>Base Metal:</b>						
Iron	(Fe) 7439-89-6	Balance	5	Oxide Dust/Fume	10	Oxide Dust/Fume
<b>Alloying Elements</b>						
Aluminum	(Al) 7429-90-5	0-3.0	10	Dust	15	Dust
Antimony	(Sb) 7440-36-0	<0.9	5	Fume	5	Respirable fraction
			0.5	As Antimony	0.5	As Antimony
Arsenic	(As) 7440-38-2	<0.09	0.01	As Arsenic (A1 Carcinogen)	0.01	As Arsenic
Beryllium	(Be) 7440-41-7	<0.09	0.002	As Beryllium (A1 Carcinogen)	0.002	As Beryllium
			0.01	As Beryllium (STEL)	0.005	As Beryllium (Ceiling)
Boron	(B) 7440-42-8	<1.1	10	Oxide Dust	15	Oxide Dust
Cadmium	(Cd) 7440-43-9	<0.01	0.01	As Cadmium (A2 Carcinogen)	0.005	As Cadmium
			0.002	Respirable fraction	0.0025	As Cadmium (Action Level)
Calcium	(Ca) 1305-78-8	<0.9	2	Oxide Dust	5	Oxide Dust
Carbon	(C) 7440-44-0	<1.0		Not Established		Not Established
Chromium	(Cr) 7440-47-3	0.01-12.5	0.5	Metal	1	Metal
Cobalt	(Co) 7440-48-4	<0.09	0.02	As Cobalt (A3 Carcinogen)	0.1	Metal/Dust/Fume
Copper	(Cu) 7440-50-8	<3.5	1	Dust	1	Dust
			0.2	Fume	0.1	Fume
Lead	(Pb) 7439-92-1	0.0-0.04	0.05	Dust / Fume (A3 Carcinogen)	0.05	Dust / Fume
Magnesium	(Mg) 7439-95-4	<0.9		Not Established		Not Established
Manganese	(Mn) 7439-96-5	<16.0	0.2	Elemental Mn and Inorg Compounds	5	Fume (Ceiling)



## Sheet Steel

Components	CAS No.	% Weight	Exposure Limits			
			ACGIH TLV (mg/m <sup>3</sup> )		OSHA PEL (mg/m <sup>3</sup> )	
Molybdenum (Mo)	7439-98-7	<1.1	10	Insoluble Compounds	15	Insoluble Compounds
Niobium (Nb)	7440-03-1	<0.9		Not Established		
Nickel (Ni)	7440-02-0	0.01-3.0	1.5	Metal	1	Metal and Insoluble Compounds
Nitrogen (N)	7727-37-9	<0.9		Simple Asphyxiant		Simple Asphyxiant
Phosphorus (P)	7723-14-0	<0.9	0.1	Phosphorus	0.1	Phosphorus
Selenium (Se)	7782-49-2	<0.9	0.2	Selenium	0.2	Selenium
Silicon (Si)	7440-21-3	0.0-5.0	10	Dust	15	Dust
Sulfur (S)	7446-09-05	<0.9	5.2 13	Sulfur Dioxide Sulfur Dioxide (STEL)	13	Sulfur Dioxide
Tin (Sn)	7440-31-5	<0.9	2	Metal, Oxide and Inorganic Compounds	2	Inorganic Compounds
Titanium (Ti)	7440-32-6	<0.9		Not Established		Not Established
Tungsten (W)	7440-33-7	<0.9	5 10	Insoluble Compounds as W Insoluble Compounds as W (STEL)		Not Established
Vanadium (V)	7440-62-2	<0.9	0.05	Oxide Dust/Fume	0.5 0.1	Oxide Dust (Ceiling) Oxide Fume (Ceiling)
Zinc (Zn)	7440-66-6	0.0-0.1	10 5 10	Oxide Dust Oxide Fume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust
<b>Coatings and Finishing Treatments:</b>						
Hydrochloric Acid (HCl)	7647-01-0	<3				
Petroleum, Natural or Synthetic oils	Mixture	<0.1	5	Mist	5	Mist
Anhydrous Potassium Hydroxide	1310-58-3	<0.01	2	Ceiling	2	Ceiling
Glycine,nn-1,2-ethanedylbis	60-00-4	<0.01				
Polyalkylene glycol	Mixture	<0.01				
Sodium nitrite	7632-00-0	<0.01				
Zinc (galvanized/galvanneal)	7440-66-6	0.4 - 10	10 5 10	Oxide Dust Oxide Fume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust

NOTE: No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel over all. The above listing is a summary of elements used in normal Nucor Steel Products. Various grades of steel will contain different combinations of these elements and/or trace materials. Exact specifications for specific products may be available upon request.

## **Sheet Steel**

### **4. FIRST AID MEASURES**

**Eye Contact**- In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

**Skin Contact** - In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.

**Inhalation** - In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this SDS develop.

**Ingestion** - Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.

**Notes to Physician** - Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self limited in 24-48 hours. Chronic exposure to dusts may result in pneumoconiosis of mixed type.

### **5. FIRE FIGHTING MEASURES**

**Flash Point (Method)** - Not applicable

**Flammable Limits (% volume in air)** - Not applicable

**Auto ignition Temperature** - Not applicable

**Extinguishing Media** - For molten metal, use dry powder or sand. For steel dust use or dry sand, water, foam, argon or nitrogen.

**Special Fire Fighting Procedures** - Do not use water on molten metal. Do not use Carbon Dioxide (CO<sub>2</sub>). Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

**Unusual Fire or Explosion Hazards** - Steel products do not present fire or explosion hazards under normal conditions. Any non-oxidized fine metal particles/ dust generated by grinding, sawing, abrasive blasting, or individual customer processes may produce materials that the customer should test for combustibility and other hazards in accordance with applicable regulations. High concentrations of combustible metallic fines in the air may present an explosion hazard.

### **6. ACCIDENTAL RELEASE MEASURES**

**Precautions if Material is Spilled or Released** - Emergency response is unlikely unless in the form of combustible dust. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this SDS (see section 8). Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways.

**Fire and Explosion Hazards** - Some customer processes may generate combustible dust that may require specific precautions when cleaning spills or releases of dust.

**Environmental Precautions** - Some grades of steel may contain reportable quantities of alloying elements. See Section 15 for additional information.

**Waste Disposal Methods** - Dispose used or unused product in accordance with applicable Federal, State, and Local regulations. Please recycle.

### **7. HANDLING AND STORAGE**

**Storage Temperatures** - Stable under normal temperatures and pressures.

## **Sheet Steel**

**Precautions to be Taken in Handling and Storing** - Store away from strong oxidizers. Dusts and/or powders, alone, or combined with process specific fluids, may form explosive mixtures with air. Applicable Federal, state and local laws and regulations may require testing dust generated from processing of steel products to determine if it represents a fire or explosion hazard and to determine appropriate protection methods. Avoid breathing dusts or fumes.

### **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Operations with potential for generating high concentrations of airborne particulates or fumes should be evaluated and controlled as necessary.

**Eye Protection** - Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding or cutting.

**Skin** - Appropriate protective gloves should be worn as necessary. Good personal hygiene practices should be followed including cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing.

**Respiratory Protection** - NIOSH/MSHA approved dust/fume/mist respirator should be used to avoid excessive exposure. See Section 3 for component material information exposure limits. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.

**Ventilation** - Provide general and/or local exhaust ventilation to control airborne levels of dust or fumes below exposure limits.

**Exposure Guidelines** - No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. See Section 3 for component materials. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance and Odor** - Silver grey to grey black with metallic luster.

**Boiling Point** - Not applicable

**Melting Point** - Approximately 2800°F

**pH** - Not applicable

**Specific Gravity (at 15.6°C)** - Not applicable

**Density (at 15.6 °C)** - Not applicable

**Vapor Pressure** - Not applicable

**Vapor Density (air = 1)** - Not applicable %

**Volatile, by Volume** - Not applicable

**Solubility in Water** - Insoluble.

**Evaporation Rate (Butyl Acetate = 1)** - Not applicable

**Other Physical and Chemical Data** - None

### **10. STABILITY AND REACTIVITY**

**Stability** - Stable

**Conditions to Avoid** - Steel at temperatures above the melting point may liberate fumes containing oxides of iron and alloying elements. Avoid generation of airborne fume.

**Hazardous Polymerization** - Will not occur.

**Incompatibility (Materials to Avoid)** - Reacts with strong acids to form hydrogen gas. Do not store near strong oxidizers.

**Hazardous Decomposition Products** - Metallic fumes may be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1

## **11. TOXICOLOGICAL INFORMATION**

The primary component of this product is iron. Long-term exposure to iron dusts or fumes can result in a condition called siderosis which is considered to be a benign pneumoconiosis. Symptoms may include chronic bronchitis, emphysema, and shortness of breath upon exertion. Penetration of iron particles in the skin or eye may cause an exogenous or ocular siderosis which may be characterized by a red-brown pigmentation of the affected area. Ingestion overexposures to iron may affect the gastrointestinal, nervous, and hematopoietic system and the liver. Iron and steel founding, but not iron or iron oxide, has been listed as carcinogenic (Group 1) by IARC.

When this product is welded, fumes are generated. Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of the metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen (Group 2B). There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxins, e.g., lead which may be present in the coating material of this product.

Breathing fumes or dusts of this product may result in metal fume fever, which is an illness produced by inhaling metal oxides. These oxides are produced by heating various metals including cadmium, zinc, magnesium, copper, antimony, nickel, cobalt, manganese, tin, lead, beryllium, silver, chromium, aluminum, selenium, iron, and arsenic. The most common agents involved are zinc and copper.

This product may contain small amounts of manganese. Prolonged exposure to manganese dusts or fumes is associated with "manganism", a Parkinson-like syndrome characterized by a variety of neurological symptoms including muscle spasms, gait disturbances, tremors, and psychoses.

This product may contain small amounts of cadmium. Primary target organs for cadmium overexposure are the lung and the kidney. Because of its cumulative nature, chronic cadmium poisoning can cause serious disease which takes many years to develop and may continue to progress despite cessation of exposure. Progression of the disease may not reflect current exposure conditions. It is also capable of causing a painful osteomalacia called "Itai-Itai" in postmenopausal women, and has caused developmental effects and/or reproductive effects in male and female animals. Cadmium is a listed carcinogen by NTP, OSHA, and IARC (Group 1).

This product may contain small amounts of chromium. Prolonged and repeated overexposure to chromium dusts or fumes may cause skin ulcers, nasal irritation and ulceration, kidney damage and cancer of the respiratory system. Chromium is skin sensitizer. Cancer is generally attributed to the hexavalent (+6) form of chromium which is listed as a carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of nickel. Prolonged and repeated contact with nickel may cause sensitization dermatitis. Inhalation of nickel compounds has caused lung damage as well as sinus, nasal and lung cancer in laboratory animals. Nickel is a listed carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of vanadium. Adverse effects from dermal, inhalation or parenteral exposure to various vanadium compounds have been reported. The major target for vanadium pentoxide toxicity is the respiratory tract. Fumes or dust can cause severe eye and respiratory irritation, and systemic effects. Chronic bronchitis, green tongue, conjunctivitis, pharyngitis, rhinitis, rales, chronic productive cough, and tightness of the chest have been reported following overexposure. Allergic reactions resulting from skin and inhalation exposures have also been reported. A statistical association between vanadium air levels and lung cancer has been suggested, but vanadium currently is not regarded as a human carcinogen.

## **Sheet Steel**

This product may contain small amounts of lead. Lead can accumulate in the body. Consequently, exposure to fumes or dust may produce signs of polyneuritis, diminished vision and peripheral neuropathy, such as tingling and loss of feeling in fingers, arms and legs. Lead is a known reproductive and developmental toxin. It is also associated with central nervous system disorders, anemia, kidney dysfunction and neurobehavioral abnormalities. The brain is a major target organ for lead exposure. Elemental lead is listed as an IARC 2B carcinogen.

The product may contain small amounts of copper. Copper dust and fumes can irritate the eyes, nose and throat causing coughing, wheezing, nosebleeds, ulcers and metal fume fever. Other effects from repeated inhalation of copper fumes include a metallic or sweet taste, and discoloration of skin, teeth or hair. Copper also may cause an allergic skin reaction. Overexposure to copper can affect the liver.

### **12. ECOLOGICAL INFORMATION**

**Aquatic Ecotoxicological Data** - No specific information available on this product.

**Environmental Fate Data** - No specific information available on this product.

### **13. DISPOSAL CONSIDERATIONS**

Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. Dispose in accordance with federal, state, and local health and environmental regulations. Prevent materials from entering drains, sewers, or waterways.

### **14. TRANSPORT INFORMATION**

**DOT Proper Shipping Name** - Not regulated

**DOT Hazard Classification** - Not regulated

**UN/NA Number** - Not applicable

**DOT Packing Group** - Not applicable

**Labeling Requirements** - Not applicable

**Placards** - Not applicable

**DOT Hazardous Substance** - Not applicable

**DOT Marine Pollutant** - Not applicable

### **15. REGULATORY INFORMATION**

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, dusts and fumes from this product may be combustible or hazardous and require protection to comply with applicable Federal, state and local laws and regulations.

**California Proposition 65:** This product contains chemicals (antimony [oxide], arsenic, beryllium, chromium [hexavalent], cobalt, cadmium, lead, nickel) known to the State of California to cause cancer and chemicals (cadmium, lead) known to the State of California to cause birth defects or other reproductive harm.

**Massachusetts Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Hydrochloric acid, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

**Pennsylvania Hazardous Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Hydrochloric acid, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

## Sheet Steel

**New Jersey Hazardous Substance List:** Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Hydrochloric acid, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

### Toxic Substances Control Act (TSCA)

Components of this product are listed on the TSCA Inventory.

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

Steel is not reportable, however, it contains hazardous substances that may be reportable if released in pieces with diameters less than or equal to 0.004 inches (RQ marked with a "\*").

<u>Chemical Name</u>	<u>Reportable Quantity (in lb)</u>
Antimony	5000*
Arsenic	1*

<u>Chemical Name</u>	<u>Reportable Quantity (in lb)</u>
Beryllium	10*
Cadmium	10*
Chromium	5000*
Copper	5000*
Lead	10*
Nickel	100*
Phosphorus	1
Selenium	100*
Zinc	1000*

### Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Effect, Delayed Health Effect

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right – To – Know Act of 1986 (40 CFR 372):

SECTION 313 REPORTABLE INGREDIENTS:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Concentration (% by weight)</u>	<u>Reportable</u>
Aluminum	7429-90-5	0.0-0.01 Some grades up to 3.0%	Yes – Greater than 1%
Antimony	7440-36-0	<0.9	No – Less than 1%
Arsenic	7440-38-2	<0.09	No – Less than 0.1%
Beryllium	7440-41-7	<0.09	No – Less than 0.1%
Cadmium	7440-43-9	<0.01	No – Less than 0.1%
Chromium	7440-47-3	0.01-1.0 Some grades up to 12.5%	Yes – Greater than 0.1%
Cobalt	7440-48-4	<0.09	No – Less than 0.1%
Copper	7440-50-8	<0.9 Some grades up to 3.5%	Yes – Greater than 1%
Lead	7439-92-1	0.0-0.04	Yes
Manganese	7439-96-5	0.2-2 Some grades up to 16.0%	Yes – Greater than 1%
Nickel	7440-02-0	0.01-0.1 Some grades up to 3.0%	Yes – Greater than 0.1%
Phosphorus	7723-14-0	<0.9	No – Less than 1%
Selenium	7782-49-2	<0.9	No – Less than 1%
Vanadium	7440-62-2	<0.9	No – Less than 1%
Zinc	7440-66-6	<0.01	No – Less than 1%

## **Sheet Steel**

Concentrations based on analytical data and process knowledge of typical products distributed by the facility.

### **16. OTHER INFORMATION**

This SDS covers Nucor product as delivered from the Nucor facility, but does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. This could include a variety of materials including oils, paints, galvanization, etc. that are not included in this SDS. Additionally, specialty orders may require application of coating material not listed in this SDS. SDSs for any Nucor-applied specialty coating will be provided separately. During welding, precautions should be taken for airborne contaminants that may originate from components of the welding rod. Arc or spark generated when welding or burning could be a source of ignition for combustible and/or flammable materials. The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product.

