

## **SAFETY DATA SHEET**

#### THE DOW CHEMICAL COMPANY

Product name: GREAT STUFF PRO™ Gun Cleaner 12oz HC Issue Date: 06/07/2018

6ct

Print Date: 06/11/2018

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. IDENTIFICATION

Product name: GREAT STUFF PRO™ Gun Cleaner 12oz HC 6ct

#### Recommended use of the chemical and restrictions on use

**Identified uses:** Cleaner. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

#### **COMPANY IDENTIFICATION**

THE DOW CHEMICAL COMPANY 2030 DOW CENTER MIDLAND MI 48674-0000 UNITED STATES

Customer Information Number: 800-258-2436

SDSQuestion@dow.com

## **EMERGENCY TELEPHONE NUMBER**

24-Hour Emergency Contact: CHEMTREC +1 800-424-9300

**Local Emergency Contact:** 800-424-9300

## 2. HAZARDS IDENTIFICATION

#### **Hazard classification**

GHS classification in accordance with 29 CFR 1910.1200 Flammable aerosols - Category 1 Gases under pressure - Liquefied gas Eye irritation - Category 2A Specific target organ toxicity - single exposure - Category 3

Label elements Hazard pictograms







Signal word: DANGER!

#### **Hazards**

Extremely flammable aerosol.

Contains gas under pressure; may explode if heated.

Causes serious eye irritation.

May cause drowsiness or dizziness.

## **Precautionary statements**

#### Prevention

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

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

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

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear eye protection/ face protection.

## Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

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.

#### **Storage**

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

Store locked up.

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

#### Disposal

Dispose of contents/ container to an approved waste disposal plant.

#### Other hazards

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component CASRN Concentration

Acetone 67-64-1 >= 60.0 - <= 100.0 %

Propane 74-98-6 >= 10.0 - <= 30.0 %

## 4. FIRST AID MEASURES

## Description of first aid measures General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Wash off with plenty of water.

**Eye contact:** Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**Ingestion:** Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

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

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

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

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. Exposure may increase "myocardial irritability". Do not administer sympathomimetic drugs such as epinephrine unless absolutely necessary. The decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

## 5. FIREFIGHTING MEASURES

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable extinguishing media:** Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire.

Special hazards arising from the substance or mixture

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Contains flammable propellant. Aerosol cans exposed to fire can rupture and become flaming projectiles. Propellant release may result in a fireball. Container may vent and/or rupture due to fire. Electrically ground and bond all equipment. Flammable mixtures of this product are readily ignited even by static discharge. Vaporizes quickly at room temperature.

## Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Water may not be effective in extinguishing fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Warning - flashback potential.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of confined or poorly ventilated areas. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. Confined space entry procedures must be followed before entering the area. For large spills, warn public of downwind explosion hazard. Vapor explosion hazard. Keep out of sewers. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Collect in suitable and properly labeled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Do not swallow. Avoid contact with eyes. Wash thoroughly after handling. Avoid breathing vapor. Use only with adequate ventilation. Keep container closed. No smoking, open flames or sources of ignition in handling and storage area. Ignition sources can include and are not limited to pilot lights, flames, smoking, sparks, heaters, electrical equipment, and static discharges. Electrically bond and ground all containers and equipment before transfer or use of material. Contents under pressure. Do not puncture or incinerate container. Containers, even those

that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation. Do not enter confined spaces unless adequately ventilated. This material is hygroscopic in nature. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Protect from atmospheric moisture. Store in a dry place. Avoid prolonged exposure to heat and air. Store in the following material(s): Carbon steel. Stainless steel. Polypropylene. Polyethylene-lined container. Teflon. Glass-lined container. Aluminum. Plasite 3066 lined container. Plasite 3070 lined container. 316 stainless steel. Store away from direct sunlight. Keep away from sources of ignition - No smoking. Store in a cool, dry place. Keep container closed. Minimize sources of ignition, such as static build-up, heat, spark or flame. See Section 10 for more specific information.

#### Storage stability

## **Storage Period:**

36 Month

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters**

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value/Notation
Acetone	Dow IHG	TWA	200 ppm
	Dow IHG	STEL	350 ppm
	ACGIH	TWA	250 ppm
	ACGIH	STEL	500 ppm
	OSHA Z-1	TWA	2,400 mg/m3 1,000
			ppm
Propane	ACGIH		Asphyxiant
·	OSHA Z-1	TWA	1,800 mg/m3 1,000
			ppm
	CAL PEL	PEL	1,800 mg/m3 1,000
			ppm

Biological occupational exposure limits

Components	CAS-No.	Control	Biological	Sampling	Permissible	Basis
		parameters	specimen	time	concentration	
Acetone 67-64-1	67-64-1	Acetone	Urine	End of	25 mg/l	ACGIH
				shift (As		BEI
				soon as		
				possible		
				after		
			exposure			
			ceases)			

#### **Exposure controls**

**Engineering controls:** Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use

only in enclosed systems or with local exhaust ventilation. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. Lethal concentrations may exist in areas with poor ventilation.

## Individual protection measures

**Eye/face protection:** Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

## Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Natural rubber ("latex"). Neoprene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Wear clean, body-covering clothing.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** 

Physical state Liquid.
Color Colorless
Odor Mild

Odor Threshold
PH
No test data available
Roiling point (760 mmHg)
No test data available
Closed cup Flammable
Evaporation Rate (Butyl Acetate
No test data available

= 1)

Flammability (solid, gas) No data available Lower explosion limit 2.1 % vol Vendor

**Upper explosion limit** 8.5 % vol *Vendor* (propane)

Vapor Pressure 4,482 hPa Vendor

Relative Vapor Density (air = 1) greater than air

Relative Density (water = 1) 0.87 at 20 °C (68 °F) / 20 °C Vendor

Water solubility Complete

Partition coefficient: n- No data available

octanol/water

Auto-ignition temperature 450 °C (842 °F) Estimated.

Decomposition temperatureNo test data availableKinematic ViscosityNo test data available

Explosive properties Not explosive

Oxidizing properties No

Molecular weightNo test data availableVolatile Organic Compounds50.8 g/L 10 WT% Supplier

NOTE: The physical data presented above are typical values and should not be construed as a specification.

## 10. STABILITY AND REACTIVITY

Reactivity: No data available

**Chemical stability:** Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

**Conditions to avoid:** Elevated temperatures can cause container to vent and/or rupture. Avoid static discharge.

Incompatible materials: Avoid contact with: Acids. Bases. Oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials.

## 11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

## **Acute toxicity**

#### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined. LD50, Rat, > 5,000 mg/kg Estimated.

## Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg Estimated.

## Acute inhalation toxicity

In confined or poorly ventilated areas, vapor can easily accumulate and can cause unconsciousness and death due to displacement of oxygen. Excessive exposure may increase sensitivity to epinephrine and increase myocardial irritability (irregular heartbeats). May cause central nervous system effects. At air concentrations <1000 ppm, propane exerts very little physiological action; at 100,000 ppm and above it may produce dizziness or other central nervous system effects. Excessive exposure may cause headache, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects, including death.

As product: The LC50 has not been determined.

#### Skin corrosion/irritation

Essentially nonirritating to skin.

May cause drying and flaking of the skin.

#### Serious eye damage/eye irritation

May cause severe eye irritation.

May cause slight corneal injury.

Effects may be slow to heal.

Vapor may cause eye irritation experienced as mild discomfort and redness.

#### Sensitization

For the major component(s):

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

#### Specific Target Organ Systemic Toxicity (Single Exposure)

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

#### Specific Target Organ Systemic Toxicity (Repeated Exposure)

Contains component(s) which have been reported to cause effects on the following organs in animals: Blood.

Kidney.

Liver.

Development of cataracts has been reported in laboratory animals after prolonged repeated skin exposure to acetone.

## Carcinogenicity

No relevant data found.

## **Teratogenicity**

Contains component(s) which, in laboratory animals, have been toxic to the fetus only at doses toxic to the mother.

#### Reproductive toxicity

For the major component(s): In animal studies, did not interfere with reproduction.

#### Mutagenicity

Genetic toxicity studies on tested components were predominantly negative.

## **Aspiration Hazard**

Aspiration into the lungs may occur during ingestion or vomiting, causing lung damage or even death due to chemical pneumonia.

#### COMPONENTS INFLUENCING TOXICOLOGY:

#### Acetone

#### Acute inhalation toxicity

LC50, Rat, 4 Hour, vapour, 76 mg/l

## **Propane**

#### Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, vapour, > 425000 ppm

## 12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

#### **Toxicity**

#### **Acetone**

#### Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 5,500 - 6,100 mg/L

#### Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, 6,084 mg/l, Method Not Specified. LC50, Ceriodaphnia dubia (water flea), 48 Hour, 8,098 mg/l

#### Acute toxicity to algae/aquatic plants

EC50, Skeletonema costatum (marine diatom), 5 d, Biomass, 11,800 - 14,400 mg/l

#### Toxicity to bacteria

IC50, activated sludge, 3 Hour, > 1,000 mg/l, OECD 209 Test

#### **Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm). dietary LC50, Coturnix japonica (Japanese quail), > 20,000 ppm

#### **Propane**

#### Acute toxicity to fish

No relevant data found.

## Persistence and degradability

#### **Acetone**

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready

biodegradability. 10-day Window: Pass **Biodegradation:** 91 % **Exposure time:** 28 d

Method: OECD Test Guideline 301B or Equivalent

Theoretical Oxygen Demand: 2.20 mg/mg Estimated.

## Biological oxygen demand (BOD)

Incubation Time	BOD	
5 d	69.1 %	
10 d	72.7 %	
20 d	73.6 %	

## Photodegradation

Test Type: Half-life (indirect photolysis)

**Sensitization:** OH radicals **Atmospheric half-life:** 52 d

Method: Estimated.

## **Propane**

**Biodegradability:** No relevant data found.

Theoretical Oxygen Demand: 3.64 mg/mg

#### **Photodegradation**

**Test Type:** Half-life (indirect photolysis)

Sensitization: OH radicals Atmospheric half-life: 8.4 d

Method: Estimated.

## **Bioaccumulative potential**

#### **Acetone**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.24 Measured

Bioconcentration factor (BCF): 0.69 Fish Measured

## **Propane**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 2.36 Measured

#### Mobility in soil

#### **Acetone**

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 0.37 - 2.0 Estimated.

## **Propane**

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 24 - 460 Estimated.

## 13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

#### 14. TRANSPORT INFORMATION

#### DOT

Proper shipping name Aerosols UN number UN 1950 Class 2.1

Packing group

Reportable Quantity Acetone

## Classification for SEA transport (IMO-IMDG):

Proper shipping name
UN 1950
Class
AEROSOLS
UN 1950
2.1

Packing group

Marine pollutant No

Transport in bulk Consult IMO regulations before transporting ocean bulk

according to Annex I or II of MARPOL 73/78 and the

**IBC or IGC Code** 

## Classification for AIR transport (IATA/ICAO):

**Proper shipping name** Aerosols, flammable

UN number UN 1950 Class 2.1

Packing group

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

## 15. REGULATORY INFORMATION

# Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Flammable (gases, aerosols, liquids, or solids)

Gases under pressure

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

# Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

## Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

ComponentsCASRNPropane74-98-6

### California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### **United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

## 16. OTHER INFORMATION

#### Revision

Identification Number: 99037923 / A001 / Issue Date: 06/07/2018 / Version: 8.1 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

## Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
Asphyxiant	Asphyxiant
CAL PEL	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
PEL	Permissible exposure limit
STEL	Short term exposure limit
TWA	Time weighted average

#### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances: ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act: CMR - Carcinogen, Mutagen or Reproductive Toxicant: DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA -Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA -Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### **Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.