

P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources.

No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical / ventilating / lighting equipment.

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

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P271 Use only outdoor or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves / eye protection / face protection.

P281 Use personal protective equipment as required.

P285 In case of inadequate ventilation wear respiratory protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor / physician if you feel unwell.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

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

P333 + P313 If skin irritation or rash occurs: Get medical advice / attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: use dry sand, dry chemical, or alcohol-resistant foam for extinction.

Storage:

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

P405 Store locked up.

Disposal:

P501 Dispose of contents / container to an approved waste disposal plant.

Potential Health Effects

Carcinogenicity:

IARC	Group 1: Carcinogenic to humans 50-00-0 Formaldehyde
ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
OSHA	OSHA specifically regulated carcinogen 50-00-0 Formaldehyde
NTP	Known to be human carcinogen. 50-00-0 Formaldehyde

Safety Data Sheet: Hardening Compound + (Item #PW0403900)

Emergency Overview

Appearance	Solid
Color	Off-White
Odor	Pungent
Hazard Summary	No information available

Section 3: Composition/Information on Ingredients

Substance / Mixture : Mixture

CHEMICAL NAME	CAS NUMBER	%	Trade Secret Information: Exact % of concentration is withheld to protect Trade Secret Information. Ranges are given in accordance with CFR 29 1910.1200(i), Appendix E
Paraformaldehyde	30525-89-4	0 – 5	

Section 4: First-Aid Measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Call a physician or poison control center immediately. If unconscious place in recovery position and seek medical advice.
- In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact: Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Section 5: Fire-fighting Measures

Suitable Extinguishing Media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from firefighting to enter drains or water courses.
Hazardous combustion products	:	Carbon monoxide Carbon dioxide (CO2)
Specific extinguishing methods	:	Use a water spray to cool fully closed containers.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharge into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

NFPA Flammable and Combustible Liquids Classification:

Combustible Liquid Class IIIA

Section 6: Accidental Release Measures

Personal precautions	:	Use personal protective equipment.
Protective equipment and Emergency procedures	:	Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Remove all sources of ignition.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

Advice on safe handling : Avoid formation of respirable particles.
 Do not breathe vapors / dust.
 Avoid exposure – obtain special instructions before use.
 Avoid contact with skin and eyes.
 For personal protection see Section 8.
 Smoking, eating, and drinking should be prohibited in the application area.
 Provide sufficient air exchange and / or exhaust in work rooms.
 Open drum carefully as content may be under pressure.
 Dispose of rinse water in accordance with local and national regulations.
 Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage : No smoking.
 Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.

Section 8: Exposure Controls/Personal Protection

CHEMICAL NAME	CAS NUMBER	%	Trade Secret Information: Exact % of concentration is withheld to protect Trade Secret Information. Ranges are given in accordance with CFR 29 1910.1200(i), Appendix E
Paraformaldehyde	30525-89-4	0 – 5	

Personal Protective Equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
 Dust safety masks are recommended when the dust concentration is more than 10 mg/ m³.

Hand protection remarks : Heavy duty Neoprene gloves or equal.

Eye protection : Chemical safety goggles, glasses or face shield.

Skin and body protection : Dust impervious protective suit
 Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

Hygiene measures : When using do not eat or drink.
 Hygiene measures continued : When using do not smoke.
 Wash hands before breaks and at the end of the workday.

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Section 9: Physical and chemical properties

FLASH POINT: >210°F (ASTM D93)

BOILING POINT: n/a

EVAPORATION RATE (BUTYL ACETATE=1): not applicable

MELTING POINT: No information

pH: 6.27

SOLUBILITY IN WATER: Slightly

FLAMMABLE LIMITS: LEL= n/a UEL= n/a

SPECIFIC GRAVITY (WATER=1): 0.54

VAPOR DENSITY (AIR=1): not applicable

VAPOR PRESSURE (mm HG): not applicable

% VOLATILE BY WEIGHT: 0.7

APPEARANCE AND ODOR INFORMATION: Off-white flaky powder with pungent odor

Section 10: Stability and Reactivity

Reactivity	:	Risk of violent reaction
Chemical stability	:	Stable under normal conditions
Possibility of hazardous reactions	:	Product can undergo hazardous polymerization. Can form potentially explosive peroxides upon long standing in air.
Conditions to avoid	:	Keep away from heat, flame, sparks, and other ignition sources. Exposure to air.
Incompatible materials	:	Oxygen Oxidizing agents Reducing agent Acids Bases Amines
Hazardous decomposition products	:	Carbon oxides Nitrogen oxides Nitric acid Cyanides Nitriles

Section 11: Toxicological Information

Paraformaldehyde

Acute Toxicity

Acute oral toxicity	:	Acute toxicity estimate: 818 mg/kg Method: calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 1.54 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: calculation method

Components:

30525-89-4

Acute oral toxicity	:	LD50 (rat): 800 mg/kg Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (rat): 1070 Exposure time: 4 h Assessment: The component/mixture is moderately toxic after short term inhalation
Acute dermal toxicity	:	LD L _Q (rabbit): 10,000 mg/kg

50-00-0:

Acute inhalation toxicity : LC50: 0.48 mg/l
Exposure time: 4 h
Assessment: The component / mixture is toxic after short term inhalation.

Skin corrosion / irritation

Product:

Remarks: Irritating to skin.

Components:

30525-89-4:

Species: rabbit

Result: Irritating to skin.

50-00-0:

Species: rabbit

Method: OECD Test Guideline 404

Result: Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage / eye irritation

Product:

Remarks: Risk of serious damage to eyes.

Components:

30525-89-4:

Species: rabbit

Result: Risk of serious damage to eyes.

50-00-0:

Result: Risk of serious damage to eyes.

Remarks: No data available.

Respiratory or skin sensitization

Product:

Remarks: Causes sensitization.

Components:

30525-89-4:

Test Type: Maximization test

Species: guinea pig

Result: May cause sensitization by skin contact.

Result: May cause sensitization by inhalation.

Remarks: No data available.

50-00-0:

Test Type: lymph node assay

Species: mouse

Result: May cause sensitization by skin contact.

Germ Cell Mutagenicity

Components:

30525-89-4:

Genotoxicity in vitro : Remarks: no data available
Germ cell mutagenicity Assessment : Mutagenicity classification not possible from current data

50-00-0:

Genotoxicity in vitro : Test Type: Ames test
Test species: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: positive
Genotoxicity in vivo : Test Type: Chromosome aberration assay in vivo
Test species: mouse
Application Route: Intraperitoneal
Result: negative
Germ cell mutagenicity assessment : In vitro tests showed mutagenic effects which were not observed with in vivo test.

Carcinogenicity

Components:

30525-89-4:

Species: rat (male and female)
Application route: oral
Exposure time: 104 wk
Dose: 10, 50, 100, 500, 1000, 1500 mg/L
Frequency of treatment: daily ad libitum
Method: OECD Test Guideline 451
Result: Ambiguous
GLP: No data available
Test substance: Information given is based on data obtained from similar substances.
Remarks: Category 2
Carcinogenicity Assessment: Suspected human carcinogens

50-00-0:

Species: rat (male and female)
Application route: oral
Exposure time: 104 wk
Dose: 10 – 1500 mg/L
Frequency of treatment: daily ad libitum
Result: evidence of carcinogenic activity
Carcinogenicity Assessment: Suspected human carcinogens

Reproductive toxicity

Components:

30525-89-4:

Effects on fertility : Remarks: no data available

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Effects on fetal development : Remarks: no data available
Reproductive toxicity assessment : Fertility classification not possible from current data.
Embryotoxicity classification not possible from current data.

50-00-0:

Effects on fetal development : Species: rat
Application route: inhalation
Dose: 0, 2, 5, 10 ppm
Duration of single treatment: 9 d
Frequency of treatment: 6 hr./ day
General toxicity maternal: NOAEC: 5ppm
Developmental toxicity: NOAEC: 10 ppm
Method: OECD Test Guideline 414
Result: No teratogenic effects
GLP: Yes
Reproductive toxicity assessment : Animal testing did not show any effects on fetal development.

STOT – single exposure

Product: No data available

Components:

30525-89-4

Exposure routes: inhalation

Target organs: respiratory tract

Assessment: May cause respiratory irritation. The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

50-00-0: No data available

STOT – repeated exposure

Product: No data available

Components:

30525-89-4: No data available

50-00-0: No data available

Repeated dose toxicity

Components:

30525-89-4:

Remarks: This information is not available.

50-00-0:

Species: rat, male

NOAEL: 15 mg/kg

LOAEL: 82 mg/kg

Application route: oral

Dose: 0, 1.2, 15, 82 mg/kg bw/day
Method: OECD Test Guideline 453
GLP: yes
Target organs: Stomach

Repeated dose toxicity assessment: Toxic if inhaled. Toxic in contact with skin. Toxic if swallowed. Causes severe skin burns and eye damage.

Aspiration Toxicity

Product:

No aspiration toxicity classification

Further Information

Product:

Remarks: No data available

Section 12: Ecological Information

Ecotoxicity

Components:

30525-89-4:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 39.1 mg/L
Exposure time: 96 h
Test Type: flow-through test

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

50-00-0:

Toxicity to fish : LC50 (Striped bass (Morone saxatilis)): 6.7 mg/l
Exposure time: 96 h
Test Type: static test
GLP: no

Toxicity to daphnia and other aquatic invertebrates

: EC50 (Daphnia pulex (water flea)): 5.8 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: no

Toxicity to algae

: EC50 (Desmodesmus subspicatus): 3.48 mg/l
End Point: Biomass
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: no

Persistence and degradability

Components:

30525-89-4

: Remarks: No data available

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50-00-0:

Biodegradability : Biodegradation: 100%
Exposure time: 4 d
Method: OECD Test Guideline 301C
GLP: no
Remarks: Readily biodegradable

Bioaccumulative potential

Components:

50-00-0:

Partition coefficient: n-octano/water : Pow: 0.35 (25°C)
Mobility in soil : No data available
Other adverse effects : No data available

Product:

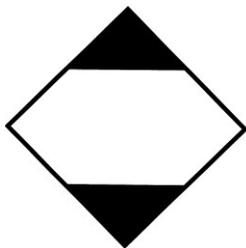
Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone
CAA Section 602 Class I Substances
Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS
as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Supt. A, App. A + B)
Additional ecological Information An environmental hazard cannot be excluded in the event of unprofessional.
handling or disposal. Harmful to aquatic life with long lasting effects.

Section 13: Disposal Considerations

Disposal methods
Waste from residues : Dispose of in accordance with all applicable local, state, and federal.
regulations.
Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn or use a cutting torch on the empty drum.
Empty containers : DO NOT RECYCLE!

Section 14: Transport Information

DOT/UN HAZARD CLASSIFICATION: N/A



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Section 15: Regulatory Information

OSHA HAZARDS : Carcinogen, Harmful by ingestion, moderate skin irritant,
Severe skin irritant, moderate respiratory irritant

WHMIS Classification : D2A: Very Toxic Material Causing other Toxic Effects
D2B: Toxic Material causing other toxic effects.

EPCRA – Emergency Planning and Community Right-To-Know Act

CERCLA Reportable Quantity

Components	CAS-No	Component RQ (lbs.)	Calculated Product RQ (lbs.)
Paraformaldehyde	30525-89-4	1000	1031

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No	Component RQ (lbs.)	Calculated Product RQ (lbs.)
Formaldehyde	50-00-0	100	**

** Calculated RQ exceeds reasonably attainable upper limit.

SARA 311 / 312 : Chronic Health Hazard
Acute Health Hazard
Fire Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

50-00-0 Formaldehyde 0.1%

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

50-00-0 Formaldehyde 0.1%

Clean Air Act : The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61)

50-00-0 Formaldehyde 0.1%

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

50-00-0 Formaldehyde 0.1%

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

50-00-0 Formaldehyde 0.1%

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Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

30525-89-4	Paraformaldehyde	97%
50-00-0	Formaldehyde	0.1%

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

50-00-0	Formaldehyde	0.1%
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This product does not contain any toxic pollutants listed under the U.S. clean Water Act Section 307

US State Regulations

Massachusetts Right to Know

50-00-0	Formaldehyde	0.1%
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Pennsylvania Right To Know

30525-89-4	Paraformaldehyde	91 – 97%
50-00-0	Formaldehyde	0 – 0.1%

New Jersey Right To Know

30525-89-4	Paraformaldehyde	91 – 97%
50-00-0	Formaldehyde	0 – 0.1%

California Prop 65

WARNING: This product contains the following chemicals that are known to the State of California to cause cancer.

Formaldehyde 50-00-0	Listed 1/1/1988
Wood dust	Listed 12/18/2009

The components of this product are reported in the following inventories:

Switzerland. New modified substances and declared preparations	:	n (Negative listing) (The formulation contains substances listed on the Swiss Inventory)
United States TSCA Inventory	:	y (positive listing) (On TSCA Inventory)
Canadian Domestic Substances List (DSL)	:	y (positive listing) (all components of this product are on the Canadian DSL).
Australia Inventory of Chemical Substances (AICS)	:	Y (positive listing) (On the inventory, or in compliance with the inventory)
New Zealand Inventory of Chemical Substances	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Japan. ENCS – Existing and New Chemical Substances Inventory	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Japan. ISHL – Inventory of Chemical Substances (METI)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
Korea. Korean Existing Chemicals Inventory (KECI)	:	y (positive listing) (On the inventory,

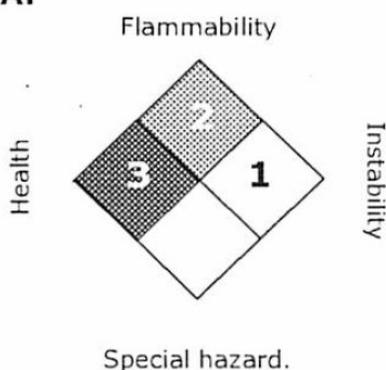
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		or in compliance with the inventory)
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	:	y (positive listing) (On the inventory, or in compliance with the inventory)
China. Inventory of Existing Chemical Substances in China (IECSC)	:	y (positive listing) (On the inventory, or in compliance with the inventory)

Section 16: Other Information

Further Information

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	2
PHYSICAL HAZARD	1

0 = not significant, 1 = Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data may become available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

Key or Legend to abbreviations and acronyms used in the safety data sheet.

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
> =	Greater than or Equal To	STEL	Short-Term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and

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			Reauthorization Act
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
< =	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50			Lethal Concentration 50%

Prepared by: Pierce Companies Regulatory Department
Date of Preparation/Revision: December 09, 2024
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