

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Product Name: CM 64 Plus
 Synonym(s): Symclosene, 1,3,5-Trichloro-1-triazine-2,4,6(1H,3H,5H)-trione
 Manufacturer: PT Crystal Anugerah Abadi
 Green Sedayu Bizpark, Jl. Daan mogot KM 18 Blok DM9/31, Jakarta Barat
 Telephone number: 62-21-22952523
 Fax number: 62-21-29725467
 Emergency telephone number: 62-21-22952523

SECTION 2 - HAZARDS IDENTIFICATION

NFPA Ratings (Scale 0-4): HEALTH=2, FIRE=0, REACTIVITY=2
 HMIS Ratings (Scale 0-4): HEALTH=3, FLAMMABILITY=0, REACTIVITY=2
 Hazard Symbols: XN O
 Risk Phrases: 22 31 36/37 8

Potential Health Effects:

Inhalation:

Short Term Exposure: irritation (possibly severe), burns
 Long Term Exposure: not a likely route of exposure, ulcers

Skin Contact:

Short Term Exposure: irritation (possibly severe), burns
 Long Term Exposure: dermatitis

Eye Contact:

Short Term Exposure: burns, eye damage, blindness
 Long Term Exposure: eye damage, blindness

Ingestion:

Short Term Exposure: not a likely route of exposure, irritation (possibly severe), burns
 Long Term Exposure: not a likely route of exposure, ulcers

Carcinogen Status:

OSHA: No
 NTP: No
 IARC: No

SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	EINECS No.	available chlorine%
Trichloroisocyanuric acid	87-90-1	201-782-8	90% MIN

SECTION 4 - FIRST AID MEASURES

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids.

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Remove contaminated clothing and shoes.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Get medical aid immediately. Do NOT induce vomiting. Allow the victim to rinse his mouth and then to drink 2-4 cupfuls of water, and seek medical advice.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

Fire and Explosion Hazards:

Negligible fire hazard.

Physical Hazards:

Strong oxidizer. above 240°C, this product will undergo self-sustaining decomposition with the evolution of heat and dense noxious gases but no visible flame. Wet material may generate nitrogen trichloride, an explosion hazard.

Extinguishing Media:

Flood with water. Do not use dry chemicals, carbon dioxide or halogenated extinguishing agents.

Fire Fighting:

Consider evacuation of personnel located downwind. Keep unnecessary people away, isolate hazard area and deny entry. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Wear NIOSH approved positive-pressure self-contained breathing apparatus. Material which appears undamaged except for being damp on the outside, should be opened and inspected immediately. DO NOT attempt to reseal contaminated drums. Damp material should be neutralized to a non-oxidizing state.

Autoignition Temperature:	N/A
Flash Point:	N/A
Explosion Limits, Lower:	N/A
Explosion Limits, Upper:	N/A

Sensitivity to Mechanical Impact: Not sensitive

Sensitivity to Static Discharge: Not sensitive

Hazardous Combustion Products:

Thermal decomposition products or combustion: chlorine, nitrogen, nitrogen trichloride, cyanogen chloride, oxides of carbon, phosgene

SECTION 6 - ACCIDENTAL RELEASE MEASURES

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal.

SECTION 7 - HANDLING AND STORAGE

Storage:

Store and handle in accordance with all current regulations and standards. (NFPA Oxidizer Classification 1.)

Do not allow water to get in container. If liner is present, tie after each use. Keep container tightly closed and properly labeled. Store containers on pallets. Keep away from food, drink and animal feed. Keep separated from incompatible substances.

Handling:

Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or dust when opening container. Avoid creation of dust. Wash thoroughly after handling. Never add water to this product. Always add product to large quantities of water. Use clean, dry utensils. Do not add the product to any dispensing device containing residuals of other products.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

OSHA Vacated PELs:

Trichloroisocyanuric acid

No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear chemical goggles. Wear safety glasses and chemical goggles if splashing is possible.

Skin:

Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to minimize contact with skin.

Respirators:

Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	tablets, powder, or granular solid
Appearance:	white
Odor:	chlorine odor
pH:	3.0-3.5 (25°C, 1% solution)
Vapor Pressure:	N/A
Vapor Density:	N/A
Evaporation Rate:	N/A
Viscosity:	N/A
Boiling Point:	N/A
Freezing/Melting Point:	N/A
Decomposition Temperature:	225°C
Solubility:	1.2 g/100ml (25°C)
Specific Gravity/Density:	N/A
Molecular Formula:	C3Cl3N3O3
Molecular Weight:	232.41

SECTION 10 - STABILITY AND REACTIVITY**Chemical Stability:**

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials, strong oxidants.

Incompatibilities with Other Materials:

Strong reducing agents, strong bases, moist air or water.

Hazardous Decomposition Products:

Hydrogen chloride, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide, nitrogen.

Hazardous Polymerization:

Has not been reported.

SECTION 11 - TOXICOLOGICAL INFORMATION**Toxicity Data:**

LD₅₀ = 809 mg/kg oral-rat;

LD₅₀ = 7600 mg/kg skin-rabbit.

Primary Skin Irritation:

Slightly Corrosive (rabbit, 24 hr);

Primary Eye Irritation:

Corrosive (rabbit, 24 hr);

Dot Skin Corrosion:

Not Corrosive (rabbit, 4 hr)

Local Effects:

Corrosive: inhalation, skin, eye, ingestion

Acute Toxicity Level:

Ingestion: moderately toxic

Dermal Absorption: slightly toxic

Health Effects

Inhalation:

Acute Exposure:

This material in the form as sold is not expected to produce respiratory effects. If ground or otherwise in a powdered form, effects similar to a corrosive substance may occur. May cause severe irritation of the respiratory tract with coughing, choking, pain and possibly burns of the mucous membranes. In some cases, pulmonary edema may develop, either immediately or more often within a period of 5-72 hours. The symptoms may include tightness in the chest, dyspnea, frothy sputum, cyanosis, and dizziness. Physical findings may include moist rales, low blood pressure and high pulse pressure. Severe cases may be fatal.

Chronic Exposure:

Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammatory and ulcerative changes in the upper respiratory tract.

Skin Contact:

Acute Exposure:

Direct contact with wet material or moist skin may cause severe irritation, pain, and possibly burns. This material is not considered to be skin sensitizer based on studies with guinea pigs.

Chronic Exposure:

Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in dermatitis or effects similar to acute exposure.

Eye Contact:

Acute Exposure:

Direct contact may cause severe irritation, pain and burns, possibly severe, and permanent damage including blindness. The degree of injury depends on the concentration and duration of contact.

Chronic Exposure:

Effects depend on concentration and duration of exposure. Repeated or prolonged contact may result in conjunctivitis or effects as in acute exposure.

Ingestion:

Acute Exposure:

May cause immediate pain and severe burns of the mucous membranes. There may be discoloration of the

tissues. Swallowing and speech may be difficult at first and then almost impossible. The effects on the esophagus and gastrointestinal tract may range from irritation to severe corrosion. Edema of the epiglottis and shock may occur.

Chronic Exposure:

Depending on the concentration, repeated ingestion may cause effects as with acute ingestion.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity Data

Fish toxicity:	This material is believed to be highly toxic to aquatic life. 0.20-0.40 mg/L 96 hour(s) LC ₅₀ , Bluegill Sunfish; 0.08-0.37 mg/L 96 hour(s) LC ₅₀ , Rainbow Trout.
Invertebrate toxicity:	0.17-0.80 mg/L 48 hour(s) LC ₅₀ , Water flea
Algal toxicity:	<0.5 mg/L 3 hour(s) LC ₅₀ , Green algae

Biodegradation:

This material is subject to hydrolysis. Cyanuric acid produced by hydrolysis is biodegradable.

Persistence:

This material is believed not to persist in the environment. Hydrolysis reaction occurs in minutes. None of the hydrolysis products are bioaccumulative or persistent. Photoreactivity of free available chlorine is 30 minutes at 30 °C (pH 7). Half-life increases to as much as 8 hours in the presence of Cyanuric acid.

Bioconcentration:

This material is believed not to bioaccumulate.

Other Ecological Information:

LD ₅₀ (oral) = 1021 ~ 1891 mg/kg, Mallard duck;
LD ₅₀ (oral) = 1674 ~ >2254 mg/kg, N. Bobwhite;
LC ₅₀ (inhalation) = >10,000 ppm, Mallard duck;
LC ₅₀ (inhalation) = 7253 ~ >10,000 ppm, N. Bobwhite.

SECTION 13 - DISPOSAL CONSIDERATIONS

Use or reuse if possible. This material is a registered pesticide. Dispose in accordance with all applicable regulations. Do not put product, spilled product, or filled or partially filled containers into the trash or waste compactor. Contact with incompatible materials could cause a reaction and fire. DO NOT transport wet or damp material. Damp material should be neutralized to a non-oxidizing state. Contact OxyChem for instructions for handling and disposal of damp material. See product label for container disposal information.

May be subject to disposal regulations: Hazardous Waste Number(s): D003.

SECTION 14 - TRANSPORT INFORMATION

Shipping Name:	TRICHLOROISOCYANURIC ACID
Hazard Class:	5.1
UN Number:	UN2468

Packing Group:	II
IMO	No information available
IATA	No information available
RID/ADR	No information available

SECTION 15 - REGULATORY INFORMATION

US FEDERAL

TSCA CAS# 87-90-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.SARA

Section 302 (RQ)

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority

Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

Hazard Symbols: XN O

Risk Phrases:

R 22 Harmful if swallowed.

R 31 Contact with acids liberates toxic gas.

R 36/37 Irritating to eyes and respiratory system.

R 8 Contact with combustible material may cause fire.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 41 In case of fire and/or explosion do not breathe fumes.

S 8 Keep container dry.

WGK (Water Danger/Protection)

CAS# 87-90-1: No information available.

Canada

CAS# 87-90-1 is listed on Canada's DSL/NDSL List.

WHMIS: N/A.

CAS# 87-90-1 is not listed on Canada's Ingredient Disclosure List.

SECTION 16 - OTHER INFORMATION

ALWAYS COMPLY WITH ALL APPLICABLE INTERNATIONAL, FEDERAL, STATE AND LOCAL REGULATIONS REGARDING THE TRANSPORTATION, STORAGE, USE AND DISPOSAL OF THIS CHEMICAL.

Due to the changing nature of regulatory requirements, the REGULATORY INFORMATION listed in Section 15 of this document should NOT be considered all-inclusive or authoritative. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

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