



SAFETY DATA SHEET

Issuing Date 08-Jul-2015

Revision Date 30-May-2015

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name 7224 X-50 RED 456-C

Other means of identification

Product Code(s) 8055421

UN-No

Synonyms No information available

Recommended use of the chemical and restrictions on use

Recommended Use Printing ink.

Uses advised against No information available

MARKEM-IMAJE USA
100 Chastain Center Blvd
Suite 165

Kennesaw, GA 30144 - USA
Phone: 770-421-7700
Fax: 770-421-7702

Details of the supplier of the safety data sheet

Supplier Address

Markem-Imaje
150 Congress St. PO Box 2100
Keene, NH 03431
(603) 352-1130

Emergency telephone number

Chemical Emergency Phone Number Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

Emergency Telephone Number In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A

GHS Label elements, including precautionary statements

Emergency Overview

Danger**Hazard statements**

Harmful if swallowed
 Causes skin irritation
 Causes serious eye damage
 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause an allergic skin reaction
 May cause cancer

**Color** Red**Physical State** Liquid**Odor** Solvent**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust/fume/gas/mist/vapors/spray
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see .? on this label)
 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
 IF ON SKIN: Wash with plenty of soap and water
 If skin irritation occurs: Get medical advice/attention
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No information available

Other information

- May be harmful in contact with skin
- Toxic to aquatic life with long lasting effects
- Toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Nature of the Preparation Mixture of solvents, polymers, colorants and additives.

Chemical Name	CAS-No	Weight %
Tributyl phosphate	126-73-8	20 - 30
n-Butyl alcohol	71-36-3	1 - 5
Hydrohexaphthalic anhydride	85-42-7	1 - 5
3H-Pyrazol-3-one, 4,4' -[(3,3' -dichloro[1,1' -biphenyl]-4,4' -diyl)bis(azo)]bis[2,4-dihydro-5-methyl-2-(4-methylphenyl)-	15793-73-4	1 - 5
Formaldehyde	50-00-0	< 1

4. FIRST AID MEASURES

First aid measures

General Advice

If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Eye Contact

Immediately flush with plenty of water. Keep eye wide open while rinsing. If symptoms persist, call a physician.

Skin Contact

Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.

Inhalation

Move to fresh air. Consult a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Oxygen or artificial respiration if needed. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician.

Ingestion

Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Protection of First-aiders

Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available

Indication of any immediate medical attention and special treatment needed

Notes to Physician May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical

Non-combustible but may burn if exposed to flame or other ignition source. Burning produces obnoxious and toxic fumes. Runoff may pollute waterways. Fire or intense heat may cause violent rupture of packages. This material creates a fire hazard because it floats on water. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus and protective suit. Fire or intense heat may cause violent rupture of packages. Keep containers and surroundings cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions**Environmental Precautions**

Prevent entry into waterways, sewers, basements or confined areas. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Beware of vapors accumulating to form explosive concentrations.

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

Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other noncombustible absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling
Handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Do not breathe vapors or spray mist. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation.

Conditions for safe storage, including any incompatibilities**Storage**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible Products

Incompatible with oxidizing agents. Incompatible with strong acids and bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Tributyl phosphate 126-73-8	TWA: 5 mg/m ³ inhalable fraction and vapor	TWA: 5 mg/m ³ (vacated) TWA: 0.2 ppm (vacated) TWA: 2.5 mg/m ³	IDLH: 30 ppm TWA: 0.2 ppm TWA: 2.5 mg/m ³
Formaldehyde 50-00-0	Ceiling: 0.3 ppm	TWA: 0.75 ppm (vacated) TWA: 3 ppm unless specified in 1910.1048 (vacated) STEL: 10 ppm 30 min unless specified in 1910.1048 (vacated) Ceiling: 5 ppm unless specified in 1910.1048 STEL: 2 ppm see 29 CFR 1910.1048	IDLH: 20 ppm Ceiling: 0.1 ppm 15 min TWA: 0.016 ppm
n-Butyl alcohol 71-36-3	TWA: 20 ppm	TWA: 100 ppm TWA: 300 mg/m ³ (vacated) S* (vacated) Ceiling: 50 ppm (vacated) Ceiling: 150 mg/m ³	IDLH: 1400 ppm Ceiling: 50 ppm Ceiling: 150 mg/m ³

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrohexaphthalic anhydride 85-42-7	Ceiling: 0.005 mg/m ³ inhalable fraction and vapor		

NIOSH IDLH: Immediately Dangerous to Life or Health.

S*: Skin Notation

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v.

Engineering Measures

In case of insufficient ventilation wear suitable respiratory equipment. Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/Face Protection

Tightly fitting safety goggles. Face-shield.

Skin and Body Protection

Long sleeved clothing. Chemical resistant apron. Lightweight protective clothing. Apron. Impervious gloves.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn

Hygiene Measures

Keep away from food and drink. When using, do not eat, drink or smoke. Wash contaminated clothing before re-use. It is good practice in industrial hygiene to avoid contact with solvents by using appropriate protective measures whenever possible. Provide regular cleaning of equipment, work area and clothing.



Glasses



Gloves



Face Mask

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Color	Red.	Odor	Solvent.
Physical State	Liquid	pH	NA
Flash Point	241°F / 116°C	Boiling Point/Range	292°C / 558°F
Autoignition Temperature	354°C / 669°F	Melting Point/Range	Not determined
Flammability Limits in Air		Explosion Limits	Not determined
Upper	11.2		
Lower	1.4%		
Specific Gravity	1.11	Solubility	Not determined
Evaporation Rate	Not determined	Vapor Pressure	Not determined
Vapor Density	Not determined	Liquid Density	9.26589762
VOC Content(%)	4.7837	VOC (lb/gal)	5.1696443864
VOC (g/l)	619.46001569		

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials

Incompatible with oxidizing agents. Incompatible with strong acids and bases.

Hazardous Decomposition Products

Carbon dioxide (CO₂). Carbon monoxide. Phosphorus compounds. Burning produces irritant fumes.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known information
Inhalation	There is no data available for this product
Eye Contact	There is no data available for this product
Skin Contact	There is no data available for this product
Ingestion	There is no data available for this product

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tributyl phosphate 126-73-8	= 1390 mg/kg (Rat)	> 3100 mg/kg (Rabbit)	= 1.359 mg/L (Rat) 4 h = 28 g/m ³ (Rat) 1 h
Formaldehyde 50-00-0	= 600 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h
n-Butyl alcohol 71-36-3	= 700 mg/kg (Rat) = 790 mg/kg (Rat)	= 3400 mg/kg (Rabbit) = 3402 mg/kg (Rabbit)	> 8000 ppm (Rat) 4 h
Hydrohexaphthalic anhydride 85-42-7	= 4040 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available

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

Sensitization No information available

Mutagenic Effects No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Tributyl phosphate 126-73-8	A3	No information available	-	-
Formaldehyde 50-00-0	A2	Group 1	Known	X
n-Butyl alcohol 71-36-3	-	No information available	-	-
Hydrohexaphthalic anhydride 85-42-7	-	No information available	-	-

ACGIH: (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

No information available

Group 1 - Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA: (Occupational Safety & Health Administration)

X - Present

Reproductive Toxicity	No information available
Specific target organ systemic toxicity (single exposure)	No information available
Specific target organ systemic toxicity (repeated exposure)	No information available
Chronic Toxicity	May cause adverse effects on the bone marrow and blood-forming system. May cause adverse liver effects. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
Target Organ Effects	Eyes, Skin, Respiratory system , Lungs, Blood, Kidney, Central nervous system (CNS), Bladder, Liver, Respiratory system.
Aspiration hazard	No information available

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral)	1248 mg/kg
ATEmix (dermal)	4148 mg/kg
ATEmix (inhalation-gas)	99999
ATEmix (inhalation-dust/mist)	91.4 mg/L
ATEmix (inhalation-vapor)	99999

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Tributyl phosphate 126-73-8	1.1: 72 h Desmodesmus subspicatus mg/L EC50 4.4: 96 h Pseudokirchneriella subcapitata mg/L EC50	1.0 - 10.0: 96 h Pimephales promelas mg/L LC50 static 7.66 - 8.74: 96 h Pimephales promelas mg/L LC50 flow-through 13: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 4.2: 96 h Oncorhynchus mykiss mg/L LC50 static 4.5: 96 h Oryzias latipes mg/L LC50 8.18: 96 h Pimephales promelas mg/L LC50 9.6: 96 h Oryzias latipes mg/L LC50 static		1.58 - 8.43: 48 h Daphnia magna mg/L EC50 Static
n-Butyl alcohol 71-36-3	500: 72 h Desmodesmus subspicatus mg/L EC50 500: 96 h Desmodesmus subspicatus mg/L EC50	100000 - 500000: 96 h Lepomis macrochirus µg/L LC50 static 1730 - 1910: 96 h Pimephales promelas mg/L LC50 static 1740: 96 h Pimephales promelas mg/L LC50 flow-through 1910000: 96 h Pimephales promelas µg/L LC50 static		1897 - 2072: 48 h Daphnia magna mg/L EC50 Static 1983: 48 h Daphnia magna mg/L EC50
Hydrohexaphthalic anhydride 85-42-7	95.6: 72 h Desmodesmus subspicatus mg/L EC50	660: 48 h Leuciscus idus mg/L LC50 static		103: 24 h Daphnia magna mg/L EC50
3H-Pyrazol-3-one, 4,4'-[(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[2,4-dihydro-5-methyl-2-(4-methylphenyl)- 15793-73-4	?	-		-

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Formaldehyde 50-00-0	?	0.032 - 0.226: 96 h Oncorhynchus mykiss mL/L LC50 flow-through 100 - 136: 96 h Oncorhynchus mykiss mg/L LC50 static 22.6 - 25.7: 96 h Pimephales promelas mg/L LC50 flow- through 23.2 - 29.7: 96 h Pimephales promelas mg/L LC50 static 1510: 96 h Lepomis macrochirus µg/L LC50 static 41: 96 h Brachydanio rerio mg/L LC50 static		11.3 - 18: 48 h Daphnia magna mg/L EC50 Static 2: 48 h Daphnia magna mg/L LC50

Persistence and Degradability

No information available

Bioaccumulation

No information available

Chemical Name	Log Pow
Tributyl phosphate 126-73-8	2.5
n-Butyl alcohol 71-36-3	0.785
Hydrohexaphthalic anhydride 85-42-7	0.56
3H-Pyrazol-3-one, 4,4'-[(3,3'-dichloro[1,1'-biphenyl]-4,4'- diyl)bis(azo)]bis[2,4-dihydro-5-methyl-2-(4-methylphenyl)- 15793-73-4	None known
Formaldehyde 50-00-0	0.35

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste Disposal Methods**

Dispose of in accordance with local regulations

14. TRANSPORT INFORMATION**UN-No****Hazard Class****Packing Group****IATA****UN-No****Hazard Class****Packing Group**

Not regulated

UN3082

III

IMDG/IMO

Not regulated

14. TRANSPORT INFORMATION

ADR Not regulated

15. REGULATORY INFORMATION**International Inventories**

TSCA Complies

Legend

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

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Formaldehyde	50-00-0	0.213188	0.1
n-Butyl alcohol	71-36-3	4.26376	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
n-Butyl alcohol	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Formaldehyde	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
3H-Pyrazol-3-one, 4,4'-(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo)bis[2,4-dihydro-5-methyl-2-(4-methylphenyl)-	15793-73-4	Carcinogen(as Benzidine based dyes)
Formaldehyde	50-00-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	Pennsylvania	Illinois	Rhode Island
Tributyl phosphate	X	X	X	
n-Butyl alcohol	X	X		
3H-Pyrazol-3-one, 4,4'- [(3,3'-dichloro[1,1'- biphenyl]-4,4'- diyl)bis(azo)]bis[2,4- dihydro-5-methyl-2-(4- methylphenyl)- Formaldehyde			X(as Benzidine based dyes)	
Formaldehyde	X	X	X	

Chemical Name	New Jersey
Tributyl phosphate	X
Formaldehyde	X
n-Butyl alcohol	X
Isobutyl alcohol	X
Hydrohexaphthalic anhydride	X

International Regulations

Mexico - Grade

Slight risk, Grade 1

Chemical Name	Carcinogen Status	Exposure Limits
Tributyl phosphate		Mexico: TWA 0.2 ppm Mexico: TWA 2.5 mg/m ³ Mexico: STEL 0.4 ppm Mexico: STEL 5 mg/m ³
n-Butyl alcohol		Mexico: Ceiling 50 ppm Mexico: Ceiling 150 mg/m ³
Formaldehyde	A2	Mexico: Ceiling 2 ppm Mexico: Ceiling 3 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

NFPA

Health Hazard 2

Flammability 1

Reactivity -

HMIS

Health Hazard 2

Flammability 1

Reactivity 0

Personal Protection X

Prepared By

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150 Congress St. PO Box 2100.
Keene, NH 03431
(603) 352-1130

Issuing Date

08-Jul-2015

Revision Note

No information available

General Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication

End of Safety Data Sheet