SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **TAC-SW 010**
PRODUCT USE: Ink
PRODUCT COLOR: Black

Manufacturer/Supplier:
PANNIER CORPORATION
207 SANDUSKY STREET
PITTSBURGH, PA 15212-5823 U.S.A.
24 Hr Emergency Telephone Number: INFOTRAC 1-800-535-5053
Further Information
Toxicological information center (Mainz / Germany)
You should contact a doctor or a toxicological information center if you suspect poisoning . The toxicological information center provides free medical advice in the event of poisoning or a suspicion of poisoning to everyone around the clock.
Important questions for EMERGENCY:
- Who: - age, weight, sex of the person concerned, telephone number for recall.
- What: - All you can say about the involved agents.
- How much: - Try to estimate the maximum possible intake .
- When: - Try to get the time elapsed since the incident time estimate .
- What else: - First observed symptoms? First Measures taken?

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the chemical
Hazard categories:
Flammable liquid: Flam. Liq. 2
Serious eye damage/eye irritation: Eye Irrit. 2A
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
Label elements
Signal word Danger
Pictograms
Flame
Exclamation mark

Hazard statements
Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness
Precautionary statements
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Take precautionary measures against static discharge .
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Hazards not otherwise classified
In principle all chemicals are particularly dangerous. Therefore they are to be handled only by specially trained

personnel with the necessary care. The disposal of this product requires the expertise resp. an annual instruction according to ChemVerbotsV.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

Chemical characterization

Mixture of organic solvents, colorants, binders and additives

Hazardous components		
CAS No	Components	Quantity
67-64-1	acetone; propan-2-one; propanone	50- 80 %
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether	5 - 10 %
78-93-3	butanone; ethyl methyl ketone	3.90096 %
9004-70-0	Cellulosenitrat < 12,6 nitrogen	2.519748 %
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	1.679292 %
97-64-3	ethyl DL-lactate, ethyl lactate	1 - 5 %

.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove contaminated, saturated clothing immediately. If victim is at risk of losing consciousness, position and transport on their side.

After inhalation

Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention if problems persist.

After contact with skin

After contact with skin, take off immediately all contaminated clothing , and wash immediately with plenty of water and soap. Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation). Use protective skin cream before handling the product. In case of skin irritation, consult a physician.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Keep at rest. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Do NOT induce vomiting. Aspiration hazard. Do not give fatty oils and milk. Do not allow a neutralisation agent to be drunk. Call a physician immediately.

Most important symptoms and effects, both acute and delayed

SECTION 2: Hazards identification & SECTION 11: Toxicological information

Indication of any immediate medical attention and special treatment needed

There are no data available on the mixture itself

SECTION 5 - FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

In case of fire, use sand, extinguishing powder or alcohol resistant foam. Water fog. Atomized water.

Unsuitable extinguishing media

High power water jet.

Specific hazards arising from the chemical

Carbon monoxide. CO Carbon dioxide (CO2). Vapours may form explosive mixtures with air . Reignition possible over considerable distance.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical resistant suit.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Provide fresh air. Avoid contact with skin and eyes. Wear suitable protective clothing and eye /face protection. If technical exhaust or ventilation measures are not possible or insufficient , respiratory protection must be worn. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, closed-circuit breathing apparatus must be used!

Environmental precautions

Do not allow to enter into surface water or drains. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Methods and material for containment and cleaning up

Provide adequate ventilation. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal. Treat the recovered material as prescribed in the section on waste disposal.

Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Provide adequate ventilation as well as local exhaustion at critical locations. Vapours / aerosols should be extracted by suction directly at point of origin. Effective exhaust ventilation system according to 2001/59/EG (Annex 7A). See information supplied by the manufacturer. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes. Open and handle container with care. Keep container tightly closed.

Advice on protection against fire and explosion

The vapours are heavier than air and can accumulate in high concentrations on the ground, in cavities, channels and cellars. In case of insufficient ventilation and /or through use, explosive/highly flammable mixtures may develop. Vapours can travel considerable distances to a source of ignition where they can ignite , flash back, or explode. Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharge .

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Ensure adequate ventilation of the storage area. Keep only in the original container in a cool, well-ventilated place. Store small packages in a suitable, robust cabinet. Keep container tightly closed. Remove all sources of ignition. Recommended storage temperature: (+15 °C) - (+25 °C)

Advice on storage compatibility

Do not store together with: Oxidising agent. Technical Rule 510 note.

Further information on storage conditions

Protect against direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The product is chemically stable under recommended conditions of storage, use and temperature. In case of exceeding the storage time: Product/Packaging disposal. Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure limits

CAS No	Substance	ppm	mg/m³.	f/cc	Category	Origin
78-93-3	2-Butanone (Methyl ethyl ketone)	200	590		TWA (8 h)	PEL
78-93-3	2-Butanone	200 300	590 885		TWA (8 h) STEL (15 min)	REL REL
67-64-1	Acetone	1000 250	2400 590		TWA (8 h) TWA (8 h)	PEL REL
67-63-0	Isopropyl alcohol	400 400 500	980 980 1225		TWA (8 h) TWA (8 h) STEL (15 min)	PEL REL REL
107-98-2	Propylene glycol monomethyl ether	100 150	360 540		TWA (8 h) STEL (15 min)	REL REL

Biological Exposure Indices (BEI-ACGIH)

CAS No	Substance	Determinant.	Value	Test material	Sampling time
67-63-0	2-PROPANOL	Acetone	40 mg/L	urine	End of shift at end of workweek
67-64-1	ACETONE	Acetone	50 mg/L	urine	End of shift
78-93-3	METHYL ETHYL KETONE	Methyl ethyl ketone	2 mg/L	urine	End of shift

Additional advice on limit values

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Exposure controls

Protective and hygiene measures

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin and eyes. Protect skin by using skin protective cream. Draw up and observe skin protection programme. Wash hands before breaks and after work . When using do not eat, drink or smoke.

Eye/face protection

Tightly sealed safety glasses. DIN EN 166

Hand protection

Wear protective gloves. Recommended material: Butyl caoutchouc (butyl rubber) Thickness of the glove material >= 0,5 mm. DIN EN 374. NR (natural rubber, natural latex) limited resistance using a maximum of 10 minutes. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

Extended inhalation at levels above the workplace limit value can cause irreversible damage to the lungs. If technical exhaust or ventilation measures are not possible or insufficient , respiratory protection must be worn. Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Physical state:	liquid	
Color:	black	
Odor:	like: Acetone	
		Test method
pH-Value (at 20 °C):	not determined	DIN 19268

Changes in the physical state

Initial boiling point and boiling range: 55 - 110 °C DIN 51751
Flash point: -15 °C DIN 51755
Explosive properties
not Explosive. Vapours may form explosive mixtures with air.
Lower explosion limits: 2,6 vol. % DIN 51649
Upper explosion limits 13 vol. %: DIN 51649
Ignition temperature: 465 °C DIN 51794
Vapor pressure:(at 20 °C) 233 hPa DIN 51754
Density (at 20 °C): 0,830 - 0,832 g/cm³ ISO 2811
Solubility in other solvents
mixable with most organic solvent cleaners
Viscosity / dynamic:(at 20 °C) 0,9 - 1,1 mPa·s DIN 53019

SECTION 10 - STABILITY AND REACTIVITY

Chemical stability
Stability: Stable
The mixture is chemically stable under recommended conditions of storage, use and temperature.
Possibility of hazardous reactions
May form explosive peroxides. In use may form flammable/explosive vapor-air mixture. Vapors of flammable solvents can accumulate in the gas phase of closed container, especially during heat treatment. Therefore keep away from fire and sources of ignition.
Conditions to avoid
Protect from sunlight. Store at temperatures not exceeding 35°C/95°F.
Incompatible materials
Keep away from strong acids, leachates, heavy metal salts and reducing materials.
Hazardous decomposition products
Carbon monoxide.(CO), Carbon dioxide (CO2). Peroxide

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity

CAS No	Components				
	Exposure routes	Method	Dose	Species	Source
67-64-1	acetone; propan-2-one; propanone				
	oral	LD50	5800 mg/kg	Rat	RTECS
	dermal	LD50	20000 mg/kg	Rabbit	IUCLID
	inhalative (4 h) vapour	LC50	76 mg/l Rat	Rat	
107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether				
	oral	LD50	> 5000 mg/kg	Rat	IUCLID
	dermal	LD50	11000 mg/kg	Rabbit	
78-93-3	butanone; ethyl methyl ketone				
	oral	LD50	3300 mg/kg	rat	
	dermal	LD50	5000 mg/kg	rabbit	
	inhalative (4 h) vapour	LC50	10000 mg/l	rat	
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol				
	oral	LD50	4570 mg/kg	rat	
	dermal	LD50	13400 mg/kg	rabbit	
	inhalative(4 h) vapour	LC50	30 mg/l	rat	

Carcinogenicity (NTP): none
Carcinogenicity (IARC): none
Carcinogenicity (OSHA): none

Further information
Prolonged/repetitive skin contact may cause skin defattening or dermatitis. Danger of cutaneous absorption. Inhalation causes narcotic effects /intoxication. Causes eye irritation.N case of eye contact. May cause damage to liver through prolonged or repeated exposure if inhaled. Ingestion causes nausea, weakness and central nervous system effects. Observe risk of aspiration if vomiting occurs.

SECTION 12 - ECOLOGICAL INFORMATION

Persistence and degradability
Product is partially biodegradable. Significant residues remain.
Bioaccumulative potential
No data available
Mobility in soil
No data available
Other adverse effects
No data available
Further information
The ecotoxicological properties of this mixture are determined by the ecotoxicological properties of the single components (see chapter 3).

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods
Advice on disposal
Dispose of waste according to applicable legislation. Do not empty into drains; dispose of this material and its container in a safe way. Consult the appropriate local waste disposal expert about waste disposal. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14 - TRANSPORT INFORMATION

US DOT 49 CFR 172.101
UN/ID number: UN1263
Proper shipping name: Paint including paint, lacquer, enamel, stain, shellac, solutions, varnish, polish, liquid filler and liquid lacquer base or Paint related material including paint thinning, drying, removing, or reducing compound
Transport hazard class(es): 3
Packing group: II
Hazard label: 3
Marine transport (IMDG)
UN number: UN 1263
UN proper shipping name: PAINT (including paint, lacquer, enamel, stain, shellac, solutions, varnish, polish, liquid filler and liquid lacquer base)
Transport hazard class(es): 3
Packing group: II
Hazard label: 3
Limited quantity: 5 L
EmS: F-E, S-E

Other applicable information
E2
Air transport (ICAO)
UN number: UN 1263
UN proper shipping name: PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base)
Transport hazard class(es): 3

Packing group: II
Hazard label: 3
Packing group: II
Hazard label: 3

Limited quantity Passenger: 1 L
IATA-packing instructions - Passenger: 353
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 364
IATA-max. quantity - Cargo: 60 L
Other applicable information
E2
Passenger-LQ: Y341

SECTION 15 - REGULATORY INFORMATION

U.S. Regulations
National regulatory information
SARA Section 304 CERCLA:
Acetone (67-64-1): Reportable quantity = 5,000 (2270) lbs. (kg)
Methyl ethyl ketone (78-93-3): Reportable quantity = 5,000 (2270) lbs. (kg)
SARA Section 311/312 Hazards:
Acetone (67-64-1): Fire hazard, Immediate (acute) health hazard
1-Methoxy-2-propanol; Monopropylenglycolmethylether (107-98-2): Fire hazard, Immediate (acute) health hazard
Methyl ethyl ketone (78-93-3): Fire hazard, Immediate (acute) health hazard
Cellulosenitrat < 12,6% Stickstoff (9004-70-0): Sudden release of pressure
Isopropyl alcohol (mfg-strong acid process) (67-63-0): Fire hazard, Immediate (acute) health hazard
Ethyllactat (97-64-3): Fire hazard, Immediate (acute) health hazard
SARA Section 313 Toxic release inventory:
Isopropyl alcohol (mfg-strong acid process) (67-63-0): De minimis limit = 1.0 %, Reportable threshold = Standard
Clean Air Act Section 112(b):
Methyl ethyl ketone (78-93-3)
Print date: 05.05.2015 Page 10 of 11
Safety Data Sheet
according to 29 CFR 1910.1200(g) REA Elektronik GmbH
Revision No: 9,00,1 USA - EN Revision date: 05.05.2015
SARA
No chemicals in this material are subject to the reporting requirements of SARA Title III , Section 302.
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.
State Regulations
Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)
This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
Additional information
For use in industrial installations or professional treatment only.

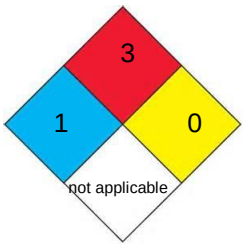
SECTION 16 - OTHER INFORMATION

Hazardous Materials Information Label (HMIS)

Health:	1
Flammability:	3
Physical Hazard:	0
Personal Protection:	B

NFPA Hazard Ratings

Health:	1
Flammability:	3
Reactivity:	0
Unique Hazard:	not applicable



Abbreviations and acronyms

Drop-on-Demand Printer: Drop-on-Demand Printer

Other data

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

The receiver of our product is singulary responsible for adhering to existing laws and regulations.

The product should only be handled by persons over the age of 18, who were informed sufficiently about the dangerous nature or the product and about the necessary safety precautions.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)